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(54) FAVORITE INFORMATION SELECTING DEVICE

(57)Abstract:

PROBLEM TO BE SOLVED: To allow a viewer to select and extract only data necessary for himself/herself only by viewing his/her favorite television program without registering any keyword.

SOLUTION: A linked data detecting part 5 detects data broadcast while being linked with television video broadcasting. A favorite information extracting part 7 extracts information indicating the interest of a viewer such as 'stock market' by analyzing the detected linked data. The favorite information stored in a favorite information storing part 8 is updated according to the extracted favorite information. At the time of detecting data suited to interest, it is not necessary for the viewer to preview a television program. At this time, broadcast data are received by an automatic turning part 20. A data suited to favorite detecting part 10 decodes the received data, and collates the data with the favorite information stored in the favorite information storing 8 for judging

whether or not the received data are data suited to the linking of the viewer.

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CLAIMS

[Claim(s)]

[Claim 1]A taste information selecting arrangement comprising:

A video-audio-information reception means which receives video audio information which is video information or speech information broadcast by television broadcasting signal or a radio broadcast signal.

A video-audio-information reproduction means which reproduces video audio information received by this video-audio-information reception means.

An interlocking data detection means to detect data broadcast by being interlocked with said video audio information of the data superimposed and broadcast by said television broadcasting signal or radio broadcast signal.

By analyzing interlocking data detected by this interlocking data detection means, A taste information extraction means to extract information which shows a televiewer's taste, and a taste information memory measure which memorizes taste information extracted by this taste information extraction means, A taste adapted data detection means to detect data which suits a televiewer's taste from data superimposed and broadcast by said television broadcasting signal or radio broadcast signal based on taste information memorized by this taste information memory measure.

[Claim 2]A taste information selecting arrangement comprising:

An information storage medium which memorized information.

A video-audio-information reception means which receives video audio information which is video information or speech information broadcast by television broadcasting signal or a radio broadcast signal.

A video-audio-information reproduction means which reproduces video audio

information received by this video-audio-information reception means.

An interlocking data detection means to detect data broadcast by being interlocked with said video audio information of the data superimposed and broadcast by said television broadcasting signal or radio broadcast signal, By analyzing interlocking data detected by this interlocking data detection means, A taste adapted data detection means to detect data which suits a televiewer's taste from information memorized by said information storage medium based on taste information extracted by taste information extraction means to extract information which shows a televiewer's taste, and this taste information extraction means.

[Claim 3]A taste information selecting arrangement comprising:

A means of communication for communicating with a communication destination via a public line.

A video-audio-information reception means which receives video audio information which is video information or speech information broadcast by television broadcasting signal or a radio broadcast signal.

A video-audio-information reproduction means which reproduces video audio information received by this video-audio-information reception means.

An interlocking data detection means to detect data broadcast by being interlocked with said video audio information of the data superimposed and broadcast by said television broadcasting signal or radio broadcast signal, By analyzing interlocking data detected by this interlocking data detection means, A taste adapted data detection means to detect data which suits a televiewer's taste from a communication destination which communicated by said means of communication based on taste information extracted by taste information extraction means to extract information which shows a televiewer's taste, and this taste information extraction means.

[Claim 4]A taste information selecting arrangement comprising:

A video-audio-information reception means which receives video audio information which is video information or speech information broadcast by television broadcasting signal or a radio broadcast signal.

A video-audio-information reproduction means which reproduces video audio information received by this video-audio-information reception means.

A program-guide-information memory measure which memorizes program guide information of television broadcasting or a radio broadcast.

A view program specifying means which specifies a TV program or a radio program under viewing and listening, By analyzing program guide information corresponding to a program specified by said view program specifying means of the program guide information memorized by said program-guide-information memory measure, A taste information extraction means to extract information which shows a televiewer's taste,

and a taste information memory measure which memorizes taste information extracted by this taste information extraction means, A taste adapted data detection means to detect data which suits a televiewer's taste from data superimposed and broadcast by said television broadcasting signal or radio broadcast signal based on taste information memorized by this taste information memory measure.

[Claim 5]A taste information selecting arrangement comprising:

An information storage medium which memorized information.

A video-audio-information reception means which receives video audio information which is video information or speech information broadcast by television broadcasting signal or a radio broadcast signal.

A video-audio-information reproduction means which reproduces video audio information received by this video-audio-information reception means.

A program-guide-information memory measure which memorizes program guide information of television broadcasting or a radio broadcast, A view program specifying means which specifies a TV program or a radio program under viewing and listening, By analyzing program guide information corresponding to a program specified by said view program specifying means of the program guide information memorized by said program-guide-information memory measure, A taste adapted data detection means to detect data which suits a televiewer's taste from information memorized by said information storage medium based on taste information extracted by taste information extraction means to extract information which shows a televiewer's taste, and this taste information extraction means.

[Claim 6]A taste information selecting arrangement comprising:

A means of communication for communicating with a communication destination via a public line.

A video-audio-information reception means which receives video audio information which is video information or speech information broadcast by television broadcasting signal or a radio broadcast signal.

A video-audio-information reproduction means which reproduces video audio information received by this video-audio-information reception means.

A program-guide-information memory measure which memorizes program guide information of television broadcasting or a radio broadcast, A view program specifying means which specifies a TV program or a radio program under viewing and listening, By analyzing program guide information corresponding to a program specified by said view program specifying means of the program guide information memorized by said program-guide-information memory measure, A taste adapted data detection means to detect data which suits a televiewer's taste from a communication destination which communicated by said means of communication based on taste information extracted by

taste information extraction means to extract information which shows a televiewer's taste, and this taste information extraction means.

[Claim 7]A taste information selecting arrangement, wherein said taste information memory measure carries out weighting of the taste information extracted by said taste information extraction means and memorizes it in a taste information selecting arrangement of claim 1 or 4 in interlocking data of said analytical object, or the analysis of program guide information.

[Claim 8]A taste information selecting arrangement, wherein dignity of taste information memorized by said taste information memory measure is lowered with the passage of time in a taste information selecting arrangement of claim 7.

[Claim 9]A taste information selecting arrangement characterized by eliminating the taste information concerned from said taste information memory measure when dignity of taste information memorized by said taste information memory measure becomes in a taste information selecting arrangement of claim 8 below in a predetermined value.

[Claim 10]In a taste information selecting arrangement of claim 1, 2, or 3, the taste information selecting arrangement concerned, Have a user's operation detection means to detect that a televiewer performed predetermined operation, and said taste information extraction means, A taste information selecting arrangement extracting information which shows a televiewer's taste by analyzing interlocking data detected by said interlocking data detection means in the neighborhood at the time of predetermined operation by a televiewer being detected by this user's operation detection means.

[Claim 11]In a taste information selecting arrangement of claim 1, the taste information selecting arrangement concerned, Have a user's operation detection means to detect that a televiewer performed predetermined operation, and said taste information memory measure, A taste information selecting arrangement changing dignity of taste information extracted by said taste information extraction means according to a kind or frequency of operation by a televiewer detected by this user's operation detection means, and memorizing the taste information concerned.

[Claim 12]In a taste information selecting arrangement of claim 1 or 4, the taste information selecting arrangement concerned, Furthermore have a taste conformity video voice section specifying means, and the taste conformity video voice section specifying means, When data which suits a televiewer's taste is detected from data broadcast by being interlocked with said video audio information by said taste adapted data detection means, A taste information selecting arrangement specifying the section of video audio information received by said video-audio-information reception means corresponding to the detected taste adapted data based on the detection timing.

[Claim 13]In a taste information selecting arrangement of claim 12, the taste information selecting arrangement concerned, Furthermore have a taste adapted data memory measure and a taste conformity video-audio-information memory measure, and

said taste adapted data memory measure, Memorize taste adapted data detected by said taste adapted data detection means, and said taste conformity video-audio-information memory measure, A taste information selecting arrangement matching video audio information of the section specified by said taste conformity video voice section specifying means with taste adapted data memorized by said taste adapted data memory measure, and memorizing it.

[Claim 14]In a taste information selecting arrangement of claim 13, the taste information selecting arrangement concerned, Furthermore have a taste adapted data reproduction means and a taste conformity video-audio-information reproduction means, and said taste adapted data reproduction means, Reproduce and taste adapted data memorized by said taste adapted data memory measure said taste conformity video-audio-information reproduction means, When taste adapted data memorized by said taste adapted data memory measure is reproduced by said taste adapted data reproduction means, A taste information selecting arrangement reproducing video audio information corresponding to the taste adapted data concerned of the video audio information memorized by said taste conformity video-audio-information memory measure reproduced.

[Claim 15]When taste adapted data memorized by said taste adapted data memory measure is eliminated in a taste information selecting arrangement of claim 13, A taste information selecting arrangement, wherein video audio information specified with the taste adapted data concerned of the video audio information memorized by said taste conformity video-audio-information memory measure eliminated is eliminated simultaneously.

[Claim 16]In a taste information selecting arrangement of claim 1 or 4, the taste information selecting arrangement concerned, Furthermore have a taste adapted data memory measure and a taste adapted data erasing means, and said taste adapted data memory measure, Memorize taste adapted data detected by said taste adapted data detection means, and said taste adapted data erasing means, When an empty storage capacity of said taste adapted data memory measure becomes below a predetermined value, or when [after taste adapted data is memorized by said taste adapted data memory measure,] predetermined time has passed, A taste information selecting arrangement eliminating taste adapted data judged an important point and needlessness of taste adapted data memorized by said taste adapted data memory measure based on dignity of taste information memorized by said taste information memory measure, and judged that is unnecessary from said taste adapted data memory measure.

[Claim 17]In a taste information selecting arrangement of claim 1 or 4, the taste information selecting arrangement concerned, Furthermore have a taste adapted data reproduction means, and the taste adapted data reproduction means, A taste information selecting arrangement determining a layout or a form of a display according to dignity of taste information memorized by said taste information memory measure when editing

and displaying two or more taste adapted data detected by said taste adapted data detection means.

[Claim 18]In a taste information selecting arrangement of claim 1 or 4, the taste information selecting arrangement concerned, Furthermore have a taste adapted data editing means, and the taste adapted data editing means, A taste information selecting arrangement determining a layout or a form of printing according to dignity of taste information memorized by said taste information memory measure when editing two or more taste adapted data detected by said taste adapted data detection means and making a printer print it.

[Claim 19]In a taste information selecting arrangement of claim 4, 5, or 6, the taste information selecting arrangement concerned, Furthermore have a taste adapted data memory measure and a taste adapted data reproduction means, and said taste adapted data memory measure, Match with taste information used for detection of the taste adapted data concerned, memorize taste adapted data detected by said taste adapted data detection means, and said taste adapted data reproduction means, When reproducing taste adapted data memorized by said taste adapted data memory measure, Based on taste information memorized by said taste adapted data memory measure corresponding to the taste adapted data concerned to reproduce, program guide information memorized by said program-guide-information memory measure is searched, A taste information selecting arrangement specifying a TV program or a radio program corresponding to the taste adapted data concerned to reproduce, and displaying this specified program identification information of a TV program or a radio program.

DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Field of the Invention]This invention receives the TV program broadcast or radio program broadcast which television imagery broadcast or radio audio broadcast, and data broadcasting were interlocked with, and relates to the device which chooses the data which suits a televiewer's taste. In this specification, "television" is called "television."

[0002]

[Description of the Prior Art]The Internet did not go for a user to take his information needed actively, but its being used by the "PUSH type" usage pattern to which data is sent from a broadcasting station one after another to a user has increased. As one of such the PUSH type usage patterns, the broadcasting signal from a broadcasting station may be overlapped on Internet data, and they may be distributed to it.

[0003]And since it is not necessary to use a telephone line when receiving the Internet data superimposed and broadcast by terrestrial TV broadcasting and digital satellite TV broadcasting, there is an advantage which can receive very cheaply the PUSH model data sent at any time from a broadcasting station.

[0004]In superimposing data on television broadcasting, there is an advantage which television imagery and data can be interlocked and can be distributed to a user. The usage of being able to distribute the data which is related to a TV program, for example, distributing the data of a teaching-materials text etc. simultaneously with images, such as an educational program, and displaying on TV footage or a personal computer screen by a multi window by this becomes possible. By broadcasting data new whenever the contents and subject of television broadcasting change, the contents and subject can be followed and a data content can be changed now.

[0005]for example, the "Web cast" (source: -- Internet ASCII.) which superimposes and broadcasts the Internet data of a HTML (Hyper Text Makeup Language) form using the vertical blanking interval (VBI) of a terrestrial-TV-broadcasting signal Vol.2, No.5, and the pp. May, 167-1997 [166-] item are started in the U.S. In Japan, from April, 1996, four lines in the vertical blanking interval for 21 lines of a terrestrial-TV-broadcasting signal are assigned as multiple data broadcasting, and the Web cast is performed by this intermediary roadway of four lines.

[0006]The trial with which digital satellite TV broadcasting also superimposes and broadcasts the Internet data of a HTML form to the digitized video information and speech information is started. In the case of digital television broadcasting, since three persons of video information, speech information, and data can be systematically treated as digital information, Internet data can be broadcast by TV radio waves, without using a vertical blanking interval.

[0007]In distributing data using a television broadcasting signal, there is an advantage which can always distribute a lot of data. For example, since there is transmission capacity of 9.6k bps per line in the case of the Web cast using the vertical blanking interval of the terrestrial-TV-broadcasting signal mentioned above, in four lines, 38.4k bps Internet data can always be transmitted. In the case of the Web cast using digital satellite TV broadcasting, Internet data can always be transmitted by about 1.5 Mbps(es).

[0008]However, in the above broadcast type data services, regardless of each televiewer's demand, since the same information is transmitted to a target by an information provider's intention to all the televiewers on the other hand, there is a problem that a televiewer is very difficult to sort out and take out data required for himself. Even if the broadcast data is once memorized to a storage and it made it see slowly later, when data is memorized in large quantities, there is a problem that it is difficult to judge immediately which data is required.

[0009]So, in the receiving set of teletext (teletext broadcast) in JP,9-9216,A, The

receiving set which records only the teletext data of the registered genre on the storage in a device is shown by when the televisioner registers beforehand the teletext data genre to which he wants to view and listen by the keyword.

[0010]In the receiver of digital satellite TV broadcasting, only the data corresponding to the registered taste is received to JP,9-50427,A, and the receiver to record is shown to it by when the televisioner registers his taste beforehand by the keyword.

[0011]To JP,7-334508,A. The device which chooses only the report of the contents which suited the televisioner's taste from the newspaper articles transmitted by data broadcasting, and is edited from a broadcasting station is shown by when the televisioner registers beforehand a genre, a keyword, etc. of the report which he wants to receive.

[0012]Thus, according to the device given in JP,9-9216,A, JP,9-50427,A, or JP,7-334508,A. Also in the broadcast type data service by which the same information is transmitted to a target by the information provider to all the televisioners on the other hand, the televisioner can choose only the information corresponding to his taste like bidirectional informational service.

[0013]

[Problem(s) to be Solved by the Invention]However, in a device given in above-mentioned JP,9-9216,A, JP,9-50427,A, or JP,7-334508,A, the televisioner has to register a keyword beforehand and there is a problem of taking the time and effort for it. For a televisioner, the work of registration of such a keyword, specification of an interested report, etc. is very troublesome work. When the effective keyword for specifying the report which is interested in the registration time of a keyword is not thought of, there is a problem of overlooking the report.

[0014]As for people's interest, changing is common. For example, usually, when gossiping if the stock of subject is exhibited even if it is those who do not get interested in stock information, he may want to know the information about the stock in detail, and the stock news of television may be seen. When those who do not get interested in a sport become a world primacy in the sport field with a certain domestic player usually, there is a case so that he may watch the special edition sports news related to the player on television.

[0015]However, in a device given in above-mentioned JP,9-9216,A, JP,9-50427,A, or JP,7-334508,A, whenever an individual interest changes, a keyword must be reregistered one by one, and there is a problem of taking time and effort dramatically. When it senses that such work is troublesome and registration is not changed, there is a problem of overlooking a report to see.

[0016]With the device of a statement, to above-mentioned JP,9-9216,A, JP,9-50427,A, or JP,7-334508,A. Since the information memorized by the storage is only the data superimposed and broadcast by the television broadcasting signal, even when the keyword which the televisioner specified in the data interlocked with television imagery is detected, there is a problem that it can only perform memorizing independently only

the data containing this keyword.

[0017]For example, when handling notes of the goods introduced by this commercial video image are broadcast by text data in connection with the commercial video image for 15 seconds, The information memorized by the receiver is only handling notes of goods, and when a televiewer looks at data afterwards, there is a problem that the appearance of goods, a use, directions for use, an effect, etc. are not known.

[0018]In namely, the case of the TV program broadcast which interlocked television imagery broadcast and data broadcasting. Even if it is common to be used as a means which gives the supplementary information over television imagery or a television sound as for data broadcasting, and only the data of data broadcasting is recorded and it reproduces later, the televiewer may be unable to understand the contents.

[0019]although he would like to watch television news, to get interested in the reported contents, and to come to get to know deeply about the contents, and the case where a newspaper and a magazine are read is alike occasionally and has been carried out, In a device given in JP,7-334508,A, in such a case, as mentioned above, a keyword must be reregistered one by one and there is a problem of taking time and effort dramatically.

[0020]In this case, if the electronic newspaper reflecting the interest of the televiewer who gained as a receiving set when a televiewer watched television news for televiewer individuals can be created automatically, For example, when data broadcasting of the report relevant to the television news which the televiewer watched in the last evening is carried out to the next morning as a newspaper article, it becomes possible to incorporate the report in a personal electronic newspaper preferentially, and is very convenient.

[0021]Also in the broadcast type data service by which the same information is transmitted to a target from the above point on the other hand to all the televiewers as for the 1st purpose of this invention, Even if a televiewer does not do specification of a report with registration of a keyword, or interest, etc., he only views and listens to his favorite TV program or radio program, While being able to sort out and take out only data required for oneself, even when a televiewer's interest changes, it is in making it not reregister a keyword one by one.

[0022]The 2nd purpose of this invention for the 1st purpose in addition, when recording the data which suits a televiewer's selected taste, In being able to record simultaneously the image or sound of the television relevant to this, or radio and reproducing the recorded data, it is in enabling it to reproduce simultaneously the image or sound of the television relevant to this, or radio.

[0023]The 3rd purpose of this invention is enabling it to create automatically the 1st electronic newspaper reflecting the interest of the televiewer who gained when a televiewer views and listened to a TV program or a radio program for televiewer individuals in eye in addition.

[0024]

[Means for Solving the Problem]A video-audio-information reception means which receives video audio information which is video information or speech information broadcast by television broadcasting signal or a radio broadcast signal as a taste information selecting arrangement in an invention of claim 1, A video-audio-information reproduction means which reproduces video audio information received by this video-audio-information reception means, An interlocking data detection means to detect data broadcast by being interlocked with said video audio information of the data superimposed and broadcast by said television broadcasting signal or radio broadcast signal, By analyzing interlocking data detected by this interlocking data detection means, A taste information extraction means to extract information which shows a televiewer's taste, and a taste information memory measure which memorizes taste information extracted by this taste information extraction means, Based on taste information memorized by this taste information memory measure, a taste adapted data detection means to detect data which suits a televiewer's taste from data superimposed and broadcast by said television broadcasting signal or radio broadcast signal is formed.

[0025]In an invention of claim 2, like an invention of claim 1, by a taste information extraction means. By analyzing interlocking data detected by an interlocking data detection means, When extracting information which shows a televiewer's taste, from data superimposed and broadcast by a television broadcasting signal or radio broadcast signal. Replace with detecting data which suits a televiewer's taste, form an information storage medium which memorized information, and a taste adapted data detection means, Based on taste information extracted by a taste information extraction means, data which suits a televiewer's taste is detected from information memorized by this information storage medium.

[0026]In an invention of claim 3, like an invention of claim 1, by a taste information extraction means. By analyzing interlocking data detected by an interlocking data detection means, When extracting information which shows a televiewer's taste, from data superimposed and broadcast by a television broadcasting signal or radio broadcast signal. Replace with detecting data which suits a televiewer's taste, establish a means of communication for communicating with a communication destination via a public line, and a taste adapted data detection means, Based on taste information extracted by a taste information extraction means, data which suits a televiewer's taste is detected from a communication destination which communicated by this means of communication.

[0027]A video-audio-information reception means which receives video audio information which is video information or speech information broadcast by television broadcasting signal or a radio broadcast signal as a taste information selecting arrangement in an invention of claim 4, A video-audio-information reproduction means which reproduces video audio information received by this video-audio-information reception means, A program-guide-information memory measure which memorizes

program guide information of television broadcasting or a radio broadcast, A view program specifying means which specifies a TV program or a radio program under viewing and listening, By analyzing program guide information corresponding to a program specified by said view program specifying means of the program guide information memorized by said program-guide-information memory measure, A taste information extraction means to extract information which shows a televiewer's taste, and a taste information memory measure which memorizes taste information extracted by this taste information extraction means, Based on taste information memorized by this taste information memory measure, a taste adapted data detection means to detect data which suits a televiewer's taste from data superimposed and broadcast by said television broadcasting signal or radio broadcast signal is formed.

[0028]In an invention of claim 5, like an invention of claim 4, by a taste information extraction means. By analyzing program guide information corresponding to a program specified by a view program specifying means of the program guide information memorized by program-guide-information memory measure, When extracting information which shows a televiewer's taste, from data superimposed and broadcast by a television broadcasting signal or radio broadcast signal. Replace with detecting data which suits a televiewer's taste, form an information storage medium which memorized information, and a taste adapted data detection means, Based on taste information extracted by a taste information extraction means, data which suits a televiewer's taste is detected from information memorized by this information storage medium.

[0029]In an invention of claim 6, like an invention of claim 4, by a taste information extraction means. By analyzing program guide information corresponding to a program specified by a view program specifying means of the program guide information memorized by program-guide-information memory measure, When extracting information which shows a televiewer's taste, from data superimposed and broadcast by a television broadcasting signal or radio broadcast signal. Replace with detecting data which suits a televiewer's taste, establish a means of communication for communicating with a communication destination via a public line, and a taste adapted data detection means, Based on taste information extracted by a taste information extraction means, data which suits a televiewer's taste is detected from a communication destination which communicated by this means of communication.

[0030]As for said taste information memory measure, in an invention of above-mentioned claim 1 or 4, it is desirable to carry out weighting of the taste information extracted by said taste information extraction means, and to memorize it in interlocking data of said analytical object or the analysis of program guide information.

[0031]In an invention of claim 12, in an invention of claim 1 or 4, establish a taste conformity video voice section specifying means further, and the taste conformity video voice section specifying means, When data which suits a televiewer's taste is detected from data broadcast by being interlocked with said video audio information by said taste

adapted data detection means, Based on the detection timing, the section of video audio information received by said video-audio-information reception means corresponding to the detected taste adapted data shall be specified.

[0032]In an invention of claim 18, in an invention of claim 1 or 4, establish a taste adapted data editing means further, and the taste adapted data editing means, When editing two or more taste adapted data detected by said taste adapted data detection means and making a printer print it, a layout or a form of printing shall be determined according to dignity of taste information memorized by said taste information memory measure.

[0033]By this invention, "taste" of a televiewer names interest, concern, liking, etc. generically, and "dignity" of taste information includes a priority or importance.

[0034]

[Function]In the taste information selecting arrangement of an invention of claim 1 constituted as mentioned above, it is received by the video-audio-information reception means, and the video audio information which is the video information or speech information of television broadcasting or a radio broadcast is reproduced by the video-audio-information reproduction means. That is, television imagery is displayed on a display screen and a television sound or a radio sound is reproduced from a loudspeaker.

[0035]In [the data broadcast by being interlocked with the video audio information of the data superimposed and broadcast by the television broadcasting signal or the radio broadcast signal by the interlocking data detection means with it is detected, and] a taste information extraction means, The information which shows a televiewer's taste is extracted by analyzing the detected interlocking data.

[0036]In [the extracted taste information is memorized by the taste information memory measure, and] a taste adapted data detection means, Based on the taste information memorized by this taste information memory measure, the data which suits a televiewer's taste is detected from the data superimposed and broadcast by the television broadcasting signal or the radio broadcast signal.

[0037]Therefore, even if a televiewer does not do specification of a report with registration of a keyword, or interest, etc., he only views and listens to his favorite TV program or radio program, While being able to sort out and take out only data required for oneself, even when a televiewer's interest changes, it is not necessary to reregister a keyword one by one.

[0038]In claim 2 or the taste information selecting arrangement of an invention of three, A taste adapted data detection means based on the taste information extracted by the taste information extraction means, It only differs from the taste information selecting arrangement of an invention of claim 1 in that the data which suits a televiewer's taste is detected from the information memorized by the information storage medium or the communication destination which communicated by the means of communication.

[0039]In the taste information selecting arrangement of an invention of claim 4 constituted as mentioned above, The program guide information of television broadcasting or a radio broadcast is beforehand written in storages, such as CDROM which are received as data broadcast by the broadcasting station, and are written in a program-guide-information memory measure, or constitutes a program-guide-information memory measure, and is distributed to a televiewer thru/or a device.

[0040]And in a taste information extraction means, the information which shows a televiewer's taste is extracted by analyzing the program guide information corresponding to the program specified by the view program specifying means of the program guide information memorized by this program-guide-information memory measure.

[0041]In [the extracted taste information is memorized by the taste information memory measure, and] a taste adapted data detection means, Based on the taste information memorized by this taste information memory measure, the data which suits a televiewer's taste is detected from the data superimposed and broadcast by the television broadcasting signal or the radio broadcast signal.

[0042]Therefore, even if a televiewer does not do specification of a report with registration of a keyword, or interest, etc., only view [televiewer] and listen to one's favorite TV program or radio program like the taste information selecting arrangement of an invention of claim 1, While being able to sort out and take out only data required for oneself, even when a televiewer's interest changes, it is not necessary to reregister a keyword one by one.

[0043]In claim 5 or the taste information selecting arrangement of an invention of six, A taste adapted data detection means based on the taste information extracted by the taste information extraction means, It only differs from the taste information selecting arrangement of an invention of claim 4 in that the data which suits a televiewer's taste is detected from the information memorized by the information storage medium or the communication destination which communicated by the means of communication.

[0044]In the taste information selecting arrangement of an invention of claim 12 constituted as mentioned above, Since the section of the video audio information corresponding to the taste adapted data detected by the taste adapted data detection means is specified by a taste conformity video voice section specifying means, The video audio information of the specified section can be matched with taste adapted data, and can be memorized, and it can reproduce after memory. Therefore, when data is seen afterwards, it is [become] easier for a televiewer to understand the contents of data.

[0045]In the taste information selecting arrangement of an invention of claim 18 constituted as mentioned above, Two or more detected taste adapted data can create the electronic newspaper reflecting the televiewer's interest for televiewer individuals by being edited in the state where a layout or a form is determined according to the dignity

of the taste information memorized by the taste information memory measure.

[0046]

[Embodiment of the Invention]The desirable gestalt for carrying out this invention is attached and shown when this invention is applied to the receiving system of television broadcasting. However, this invention is applicable also to the receiving system of a radio broadcast so that it may mention later.

[0047]Although "video information or speech information" was defined as "video audio information" in a "claim", "The means for solving a technical problem", and the column of the an "operation", Since following embodiments are the cases where this invention is applied to the receiving system of television broadcasting, by following embodiments, "video audio information" shall mean "video information and speech information."

[0048][A 1st embodiment] by receiving the TV program broadcast which television imagery broadcast and data broadcasting were interlocked with in a 1st embodiment, and analyzing the contents of data broadcasting broadcast within the TV program to which the televiewer viewed and listened, The information which shows a televiewer's taste is extracted, and the data which suits a televiewer's taste is chosen and memorized from the data etc. which were broadcast by data broadcasting based on this extracted taste information.

[0049]The data broadcast by being interlocked with the TV program to which the televiewer is viewed and listening is high data of concern for a televiewer in many cases. Therefore, when the TV program broadcast which television imagery broadcast and data broadcasting were interlocked with is received, the information which shows a televiewer's taste can be acquired by analyzing the contents of data broadcasting broadcast within the TV program to which the televiewer viewed and listened. And the data which suits a televiewer's taste can be chosen from the data etc. which were broadcast by data broadcasting based on the acquired taste information.

[0050]Also in the broadcast type data service by which according to this 1st embodiment the same information is transmitted to a target on the other hand to all the televiewers so that it may mention later, Even if he does not do specification of a report with registration of a keyword, or interest, etc., a televiewer only views and listens to his favorite TV program, can sort out only data required for himself, and can take it out.

[0051]A 1st embodiment is a case where this invention is applied to the receiving system of terrestrial TV broadcasting. However, it is applicable also to the receiving system of digital satellite TV broadcasting so that it may mention later.

[0052](Elements of the Invention) Drawing 1 shows an example of the receiving system of a 1st embodiment. While the television broadcasting station 30 transmits the modulated analog video audio signal as television imagery broadcast of terrestrial TV broadcasting by the television broadcasting electric wave 31, As data broadcasting, digital data is transmitted, for example using four lines from the 10th line in the vertical blanking interval of a television video signal to the 13th line. Since there is transmission

capacity of 9.6k bps per line, 38.4k bps data can be transmitted in four lines.

[0053]In the case of this example, the digital data transmitted is Internet data of a HTML form. Typical Internet data contain layout information, a plain text, an animation, a still picture, a sound, the link information to other Internet data, or a computer program.

[0054]A receiving system is provided with TV receiver 40, TV antenna 41, the storage device part 44, the television operation remote control 50, and the printer 60 as a whole, It is received by TV antenna 41 and the television broadcasting signal containing the Internet data of the modulated analog video audio signal and HTML form from the television broadcasting station 30 is tuned in in the channel selection part in TV receiver 40.

[0055]Although TV receiver 40 enables it to display simultaneously the television imagery 42 and the data image 43 by Internet data on the display screen and the television imagery 42 is usually displayed on the whole display screen, When Internet data are received, the television imagery 42 and the data image 43 are displayed simultaneously.

[0056]As a method of displaying the television imagery 42 and the data image 43 simultaneously, In the form which displays the television imagery 42 on what is called a picture yne picture method and the whole display screen in addition to the method of dividing a display screen into two in a transverse direction so that it may illustrate, and is made to overlap it. The method of distributing two or more fields on the television imagery 42, and displaying the data image 43, etc. can be used. It may be made to display the data image 43 on a display different from the indicator of TV receiver 40.

[0057]The storage device part 44 is what constitutes a taste information storage parts store, a taste adapted data storage parts store, etc. which are mentioned later, It connects with TV receiver 40 by USB(Universal Serial Bus) 47, using a hard disk (magnetic disk), a magneto-optical disc, semiconductor memory, etc. as a storage. By this, data can be transmitted by 12Mbps between TV receiver 40 and the storage device part 44.

[0058]However, the storage device part 44 may be installed in TV receiver 40. If exchangeable storages, such as MD, a ZIP disk, and flash memory card corresponding to PCMPICIA, are used as a storage of a taste information storage parts store, The viewer can carry the information which shows its taste and can choose now the data which suits its taste also in another TV receiver.

[0059]It is what the television operation remote control 50 transmits infrared remote control signals to the infrared receive section 45 of TV receiver 40, and controls TV receiver 40, It has the data selection dial 51, the data print key 53, the data erasure key 54, the interlocking data reproduction mode ON/OFF key 55, the taste information display key 56, and the other key groups 59. The other key groups 59 are electric power switches, channel selection keys, volume control keys, etc. with which the usual television operation remote control is provided.

[0060]The data selection dial 51 chooses the taste adapted data which should be displayed from the taste adapted data currently recorded on the taste adapted data storage parts store of the storage device part 44 by turning this.

[0061]The data print key 53 is in the state which chose and displayed the taste adapted data which should be displayed by the data selection dial 51, and prints the displayed taste adapted data as a picture on the paper 61 with the printer 60 by carrying out the depression of this.

[0062]In this case, taste adapted data is made into an infrared signal by the infrared ray transmission section 46 of TV receiver 40, and is transmitted to the printer 60. This infrared transmission is a thing based on IrDA1.1 standard, and can transmit print data by 4Mbps.

[0063]The data erasure key 54 is in the state which chose and displayed the taste adapted data which should be displayed by the data selection dial 51, and eliminates the displayed taste adapted data from the taste adapted data storage parts store of the storage device part 44 by carrying out the depression of this.

[0064]The interlocking data reproduction mode ON/OFF key 55 chooses whether the data interlocked with television imagery is displayed on the display screen of TV receiver 40.

The taste information display key 56 is a key for displaying the taste information memorized by the taste information storage parts store.

[0065]Drawing 2 shows the functional block composition of an example of the taste information selecting arrangement of a 1st embodiment. The taste information selecting arrangement of this example is provided with the channel selection part 1, the analog demodulation part 2, an image, a sound and a data output part 3, the automatic channel selection part 20, and the data processing part 19.

[0066]The television broadcasting signal containing the Internet data of the modulated analog video audio signal and a HTML form, It tunes in in the channel selection part 1, the modulated analog video audio signal in the tuned-in television broadcasting signal gets over by the analog demodulation part 2, and the analog video audio signal to which it restored is supplied to an image, a sound, and the data output part 3. An image, a sound, and the data output part 3 are constituted by the indicator and loudspeaker of TV receiver 40, television imagery and a data image are displayed on the display screen of an indicator, and a television sound is reproduced from a loudspeaker.

[0067]So that the data which suits a televiewer's taste can be chosen, even while the automatic channel selection part 20 turns OFF the power supply of the channel selection part 1, the analog demodulation part 2, and an image, a sound and a data output part 3 and the televiewer is not viewing and listening to a TV program, A receiving channel is automatically changed to predetermined timing, and data broadcasting is always received.

[0068]The data processing part 19 receives the system bath 4, The interlocking data detector 5, the interlocking data reproducing part 6, the taste information extraction part 7, the taste information storage parts store 8, the taste information indicator 9, the taste adapted data primary detecting element 10, the taste adapted data detection result notice part 11, the taste adapted data storage parts store 12, the regenerative data specification part 13, the taste adapted data regenerating section 14, The printing job part 15, the taste adapted data erasing part 16, and the control section 18 are connected and constituted.

[0069]However, in mounting, the data processing part 19 can be constituted so that one block may contain some functional divisions, or so that one functional division may be divided into some blocks.

[0070]By the data-broadcasting receiving decoder, the interlocking data detector 5 detects the data interlocked with the television imagery in the television broadcasting signal tuned in in the channel selection part 1, and outputs it to the system bath 4. The interlocking data reproducing part 6 is processed so that the detected interlocking data may be displayed, and it is outputted to an image, a sound, and the data output part 3.

[0071]The taste information extraction part 7 extracts the information which shows a televiewer's taste by analyzing the interlocking data detected by the interlocking data detector 5. The taste information storage parts store 8 learns and memorizes the extracted taste information.

[0072]By pressing the taste information display key 56 of the television operation remote control 50, the taste information indicator 9 is processed so that the taste information memorized by the taste information storage parts store 8 may be displayed, and it is outputted to an image, a sound, and the data output part 3.

[0073]The taste adapted data primary detecting element 10 detects the data which suits a televiewer's taste based on the taste information memorized by the taste information storage parts store 8 from the data broadcast by data broadcasting tuned in in the automatic channel selection part 20 by the data-broadcasting receiving decoder. When taste adapted data is detected by the taste adapted data primary detecting element 10, the taste adapted data detection result notice part 11 displays that on TV receiver 40, and tells a televiewer about it.

[0074]The taste adapted data storage parts store 12 memorizes the taste adapted data detected by the taste adapted data primary detecting element 10. The regenerative data specification part 13 by operation of the data selection dial 51. The taste adapted data in the taste adapted data memorized by the taste adapted data storage parts store 12 which should be displayed is specified, and the taste adapted data regenerating section 14 is processed so that the specified taste adapted data may be displayed, and it is outputted to an image, a sound, and the data output part 3.

[0075]By pressing the data print key 53, the printing job part 15 is processed so that the taste adapted data currently then displayed may be made to print with the printer 60, and it is outputted to the infrared ray transmission section 46. The taste adapted data erasing

part 16 eliminates the taste adapted data currently then displayed from the taste adapted data storage parts store 12 by pressing the data erasure key 54. The control section 18 controls processing of the whole taste information selecting arrangement.

[0076](Operation at the time of renewal of taste information) In a 1st embodiment mentioned above. While extracting the information which shows a televiewer's taste by analyzing the contents of data broadcasting broadcast within the TV program to which the televiewer viewed and listened at the time of reception of the TV program broadcast which television imagery broadcast and data broadcasting were interlocked with, This extracted taste information is learned and the taste information memorized by the taste information storage parts store 8 is updated.

[0077]Even if a televiewer does not do specification of a report with registration of a keyword, or interest, etc., by this, he only views and listens to his favorite TV program, The information which shows its taste can be updated as required, and at the time of the taste adapted data detection memory which mentions later, only data required for itself can be sorted out and can be taken out now each time.

[0078]Drawing 3 is shown and the taste information update process routine which the data processing part 19 performs at the time of this TV program broadcast reception in that taste information update process routine 100. In Step 101, it is judged first whether the data interlocked with television imagery by the data-broadcasting receiving decoder of the interlocking data detector 5 was detected.

[0079]That interlocking data is expressed by MIME (Multipurpose Internet Mail Extensions) syntax in this example. Since an example of the interlocking data expressed by the MIME syntax is shown and two or more objects are stored in one digital data, drawing 4 uses the multi-part type, and at the example of drawing 4, it is ".-----Each object is divided by 2424F803488."

[0080]The 1st of the objects of this is the contents described below at "Content-Type:text/control". Into the portion below "Content-Type:text/control", it is described how TV receiver 40 should process the digital data concerned.

The example of drawing 4 shows that it is interlocking data which should be reproduced by interlocking with [television sound / television imagery and] the digital data concerned.

[0081]The portion of "<sync gcode=425334 id=32 expire=3hours>", It is description (command in which it is shown that "sync" is interlocking data) which shows that it is interlocking data, and the program identifier of the TV program which should display the digital data concerned, the data identifier of the digital data concerned in the inside of this TV program, and the shelf-life of the digital data concerned are described.

[0082]. [whether it is the data poured by being interlocked with a TV commercial image, and] It can be distinguished now whether it is the data poured by being interlocked with the contents of the usual TV program, and the above-mentioned "sync"

command is a command in which it is shown that it is the data poured by being interlocked with the contents of the usual TV program. A "cm-sync" command is used for the data poured by being interlocked with a TV commercial image instead of a "sync" command. In TV receiver 40, when distinguishing this and extracting taste information, the TV commercial data which does not have the contents and relation of a TV program directly can be excepted.

[0083]In this example, program identification information is a G code (TV program identification code by the U.S. JEM star company called VCR-PLUS). Namely, as for the portion of "gcode=425334 id=32", the digital data concerned is interlocked with the TV program 425334 G code numbers are [TV program].

And it is shown that a digital data identifier is a thing of No. 32.

[0084]The portion of "expire=3hours" is description which shows the shelf-life of digital data.

After receiving the digital data concerned, when 3 hours have passed, the digital data concerned memorized by TV receiver 40 comes to be eliminated automatically.

[0085]The 2nd object is the contents described below at "Content-Type:text/html". When the words and phrases which continue after "Content-Type:" are "text/html", it is considered that the data not more than it is Internet data of a HTML form. Drawing 4 is a case of the data broadcast by being interlocked with the stock information offer program of television.

[0086]When the interlocking data detector 5 detects interlocking data, He follows the taste information update process routine 100 to Step 102 from Step 101, By the interlocking data reproduction mode ON/OFF key 55 of the television operation remote control 50. When it judges whether TV receiver 40 is set as the state in the interlocking data reproduction mode ON and is set as the state in the interlocking data reproduction mode ON, it progresses to Step 103 further and the interlocking data detected by the interlocking data reproducing part 6 is displayed on TV receiver 40.

[0087]In the example of drawing 4, the television imagery of the stock information offer program tuned in on the left-hand side of the display screen shown in drawing 1 is displayed, and the data of the contents of "Tokyo Stock Exchange of toward morning --" interlocked with right-hand side at left-hand side television imagery is displayed.

[0088]At Step 103, if interlocking data is displayed on TV receiver 40, it will progress to Step 104. When TV receiver 40 is set as the state in the interlocking data reproduction mode OFF, it progresses to Step 104 directly from Step 102.

[0089]And in Step 104 by the data-broadcasting receiving decoder of the interlocking data detector 5. By decoding MIME data, the object (interlocking Internet data) contained in MIME data is extracted, it progresses to Step 105 further and the information which shows a viewer's taste is extracted from the extracted object in

the taste information extraction part 7.

[0090]Since it is thought that the contents of data broadcasting broadcast within the TV program to which the televiewer viewed and listened are reflecting a televiewer's interest and concern, the information which shows a televiewer's taste can be extracted by analyzing the interlocking Internet data produced by decoding MIME data.

[0091]In Step 105, concretely the taste information extraction part 7, The important keyword by which a data content is characterized is specified and extracted from the text part contained in the extracted object using publicly known morphological-analysis art and whole sentence analysis technology, and let the extracted important keyword be the information which shows a televiewer's taste.

[0092]In this example, the number of times which appears in other reports determines the noun phrase which appears frequently to the report concerned few as the important keyword by which the report concerned is characterized. That is, the importance of a certain noun phrase is determined by " $\frac{\text{number of times to which the noun phrase concerned appeared in the report concerned}}{\text{number of times to which the noun phrase concerned appeared in other reports}}$." And as for the taste information extraction part 7, only a noun phrase with this larger importance than a predetermined value is extracted as an important keyword by which the report concerned is characterized. In the example of drawing 4, the noun phrases sorted out as an important keyword are "Tokyo Stock Exchange", a "money order", the "direction of a strong yen", the "prime electrical machinery stock", and a "foreign investor."

[0093]In this example, when computing "the number of times to which the noun phrase concerned appeared in other reports", the appearance frequency of that noun phrase is investigated for data other than the data broadcast by being interlocked with television imagery broadcast, the data it was broadcast independently that were television imagery broadcasts, and broadcast data. Although omitted in drawing 2, the appearance frequency of each noun phrase detected by this is accumulated in the memory provided in the storage device part 44 of drawing 1, and is used as a general noun dictionary (table of the noun phrase generally used in many reports). At the time of subsequent whole sentence analysis processing, the general noun dictionary memorized by this memory is used in order to eliminate a general noun phrase (noun phrase generally used in many reports) from an important keyword.

[0094]Importance of the important keyword which progressed to Step 106 from Step 105 further, and was extracted by the taste information extraction part 7 as mentioned above in the taste information update process routine 100, and this important keyword [(number of times to which the noun phrase concerned appeared in the report concerned) / (number of times to which the noun phrase concerned appeared in other reports)] it is alike, and it is based and the taste information memorized by the taste information storage parts store 8 is updated.

[0095]Drawing 5 (A) shows the memory state of the taste information storage parts

store 8 at a certain time. The "dignity mark" matches and is remembered to be taste information, such as a "stock market" and a "money order", by the taste information storage parts store 8 so that it may illustrate. In this example, the maximum of dignity mark is made not to exceed dignity mark about 100 points by 100 points.

[0096]Drawing 5 (B) indicates an example of the importance to be the important keyword extracted by the taste information extraction part 7 at the time of after that. However, importance is the above-mentioned importance. [(number of times to which the noun phrase concerned appeared in the report concerned) / (number of times to which the noun phrase concerned appeared in other reports)] is multiplied by 100.

[0097]In renewal of taste information, the important keyword extracted by the taste information extraction part 7, When in agreement with the taste information already registered into the taste information storage parts store 8, Namely, importance determined by the taste information extraction part 7 in the dignity mark of the taste information registered when the taste information which can serve as partial character strings of the important keyword extracted by the taste information extraction part 7 was already registered into the taste information storage parts store 8 Only the part of [100x(number of times to which noun phrase concerned appeared in report concerned)/(number of times to which the noun phrase concerned appeared in other reports)] is raised.

[0098]For example, the dignity mark of the taste information "stock market" (dignity mark 75) registered into the taste information storage parts store 8 in drawing 5 (A), As shown in drawing 5 (B), when the important keyword "Tokyo Stock Exchange" (importance 4) is extracted by the taste information extraction part 7, it is updated by 79 points as shown in drawing 5 (C).

[0099]On the other hand, the important keyword extracted by the taste information extraction part 7, When not registering with the taste information storage parts store 8, the taste information which can serve as partial character strings of the important keyword extracted by the taste information extraction part 7, When not registering with the taste information storage parts store 8, as taste information, mark fixed as dignity mark, for example, 50 points, are given to this, and the important keyword or its partial character strings are registered into the taste information storage parts store 8.

[0100]For example, the taste information which can serve as partial character strings of the important keyword "foreign investor" extracted by the taste information extraction part 7 as shown in drawing 5 (B), When not registering with the taste information storage parts store 8 like drawing 5 (A), As the important keyword "foreign investor" is divided into a "foreigner" and an "investor" and by analyzing syntax further shows it to drawing 5 (C), the dignity mark of 50 points are given to each by making each into taste information, and it registers with the taste information storage parts store 8.

[0101]The data processing part 19 lowers gradually the dignity mark of the taste information memorized by this taste information storage parts store 8 with progress of

time. For example, whenever 1 day will pass, it lowers three dignity mark at a time. And when the dignity mark of a certain taste information become zero point, the data processing part 19 eliminates the taste information from the taste information storage parts store 8.

[0102]Even if it is the taste information from which dignity mark became 100 points at a certain time according to this, For 34 days of after that, when the important keyword which is in agreement with the taste information is not extracted by the taste information extraction part 7, the dignity mark of the taste information will be zero point, and the taste information will be eliminated from the taste information storage parts store 8.

[0103]Thus, by lowering the dignity mark of the taste information memorized by the taste information storage parts store 8 with the passage of time, Also when a televiewer's interest and concern move to others, while being able to cope with exactly selection of the data which suits a televiewer's taste mentioned later, When dignity mark eliminate the taste information as for which below the predetermined value became from the taste information storage parts store 8, and the televiewer's interest and concern moved to others, the data which became the outside of an object is certainly excludable from the retrieval object of the data which suits a televiewer's taste.

[0104]In this example, the televiewer can change the taste information memorized by the taste information storage parts store 8 and its dignity mark by forming the taste information display key 56 and the taste information indicator 9.

[0105]That is, in this example, if a televiewer does the depression of the taste information display key 56, the taste information memorized by the taste information storage parts store 8 will be displayed on TV receiver 40 by the taste information indicator 9 with those dignity mark. And a televiewer by the key group abridged in drawing 1 of the television operation remote control 50 on a display screen, If the dignity mark of the existing taste information are changed, and the existing taste information is deleted or new taste information is written in with dignity mark, the taste information after change containing dignity mark will be memorized by the data processing part 19 at the taste information storage parts store 8.

[0106]As mentioned above, while extracting the information which shows a televiewer's taste by analyzing the contents of data broadcasting broadcast within the TV program to which the televiewer viewed and listened, the taste information memorized by the taste information storage parts store 8 can be updated by learning this extracted taste information.

[0107]As a method of multiplexing two or more information, the packet multiplex mode based on MPEG-2Systems used by digital satellite TV broadcasting may be used instead of using MIME encoding. In MPEG-2Systems, it is considered as the basic unit of transmission of the packet of the 188 byte fixed length called TS (Transport Stream) packet, It has structure which contains PID (Packet Identifier) for packet discernment in

the packet header of this TS packet.

[0108]Methods other than the method mentioned above in extraction of the important keyword in the taste information extraction part 7 may be used together. For example, the method of making it into the object of whole sentence analysis also including words and phrases other than a noun phrase or the method of raising the importance of the noun phrase described by the title portion of the report from the importance of the noun phrase described by other portions can be used.

[0109]It may be made to use the general noun dictionary beforehand memorized by storages, such as CDROM, instead of investigating the appearance frequency of each noun phrase for various data, although a general noun phrase is eliminated from an important keyword, and accumulating in a memory, as mentioned above.

[0110]The dignity mark of the taste information memorized by the taste information storage parts store 8 are the importance of an important keyword. Instead of making it be proportional to [(number of times to which the noun phrase concerned appeared in the report concerned) / (number of times to which the noun phrase concerned appeared in other reports)], and making it change, it may be made to change nonlinearly to importance.

[0111]In lowering the dignity mark of the taste information memorized by the taste information storage parts store 8 with the passage of time, it may be made to lower mark nonlinearly with the passage of time for example, like [will call it ten points on the 1st, and it will be called five points on the 2nd, and / day by day / 1 / at a time] two points after that.

[0112](Operation at the time of taste adapted data detection memory) In a 1st embodiment. As mentioned above, taste information is extracted, and after updating the taste information memorized by the taste information storage parts store 8, based on the taste information memorized by the taste information storage parts store 8, the data which suits a televiewer's taste is chosen and memorized from the data broadcast by data broadcasting from the television broadcasting station 30.

[0113]Therefore, in this example, as mentioned above, the automatic channel selection part 20 changes a receiving channel automatically to predetermined timing, always receive data broadcasting, and the taste adapted data primary detecting element 10 by that data-broadcasting receiving decoder. The data which suits a televiewer's taste is detected from the data broadcast by data broadcasting tuned in in the automatic channel selection part 20.

[0114]The data-broadcasting receiving decoder of the taste adapted data primary detecting element 10, It is made to operate independently of the data-broadcasting receiving decoder of the interlocking data detector 5, Even while the data-broadcasting receiving decoder of the interlocking data detector 5 has decoded the data interlocked with the television imagery of the channel tuned in in the channel selection part 1, it enables it to decode the data broadcast by data broadcasting of the channel tuned in in

the automatic channel selection part 20.

[0115]Therefore, a televiewer turns ON the power supply of the channel selection part 1, the analog demodulation part 2, and an image, a sound and a data output part 3, and displays television imagery, and irrespective of whether it is viewing and listening to a TV program, as shown below, the data which suits a televiewer's taste is detected and memorized.

[0116]Drawing 6 is shown and the taste adapted data detection memory processing routine which the data processing part 19 performs at the time of this taste adapted data detection memory in that taste adapted data detection memory processing routine 200. In Step 201, it is judged first whether the data broadcast by data broadcasting by the data-broadcasting receiving decoder of the taste adapted data primary detecting element 10 was detected.

[0117]That digital data detected is expressed by MIME syntax in this example. The contents which drawing 7 showed an example of the digital data expressed by the MIME syntax, and were described below at "Content-Type:text/html" are Internet data of a HTML form.

[0118]When the taste adapted data primary detecting element 10 detects digital data, The taste adapted data detection memory processing routine 200, From Step 201, progress to Step 202 and by the data-broadcasting receiving decoder of the taste adapted data primary detecting element 10. In [decode MIME data, progress to Step 203 further, and] the taste adapted data primary detecting element 10, It is judged whether received data are data which suits a televiewer's taste by comparing the Internet data of the decoded result of the MIME data based on the data-broadcasting receiving decoder with the taste information memorized by the taste information storage parts store 8.

[0119]. In this example, the taste adapted data primary detecting element 10 is remembered by the taste information storage parts store 8 in received data. When it judges that the received data are data which suits a televiewer's taste when one of taste information is detected as for more than a predetermined number and less than a predetermined number is detected, it is judged that the received data are data which does not suit a televiewer's taste. A predetermined number is set to 3, for example.

[0120]Since the taste information of the "stock market" of the taste information memorized by the taste information storage parts store 8 shown in drawing 5 (C), a "money order", a "foreigner", and an "investor" exists in received data in the example of drawing 7, The taste adapted data primary detecting element 10 judges that received data are data which suits a televiewer's taste.

[0121]When it judges that received data are data which suits a televiewer's taste at Step 203, it progresses to Step 204, and conversely, when it judges that received data are data which does not suit a televiewer's taste, it returns to Step 201.

[0122]In Step 204, judge whether television imagery is then displayed, and when it is during the display of television imagery, It progresses to Step 205, and by the taste

adapted data detection result notice part 11, it displays that the data which suits a televiewer's taste was detected on TV receiver 40, and a televiewer is told about it.

[0123]For example, as shown in drawing 8, when only predetermined time carries out the screen overlay of the mark 47 "WEB" to the upper right portion of a display screen while displaying the television imagery 42, a televiewer is notified of the Internet data which suit a televiewer's taste having been detected. It may be made to display the taste information memorized by the taste information storage parts store 8 contained in the detected taste adapted data, without combining with the display of the mark 47 or displaying the mark 47.

[0124]If a televiewer is notified of taste adapted data having been detected at Step 205, it will progress to Step 206. When it judges that television imagery is not displayed at Step 204, it progresses to Step 206 directly from Step 204.

[0125]When television imagery is not displayed and taste adapted data is detected, The taste adapted data detection result notice part 11 memorizes that, and when power supplies, such as the channel selection part 1, are turned ON next and television imagery is displayed, it tells a televiewer about it by the method which mentioned that taste adapted data was detected above.

[0126]In Step 206, the taste adapted data detected by the taste adapted data primary detecting element 10 is memorized to the taste adapted data storage parts store 12, and it returns to Step 201. In this case, as an example is shown in drawing 9, to the taste adapted data storage parts store 12. The memory time to the taste adapted data storage parts store 12 of the detected taste adapted data and its taste adapted data and the taste information number in the taste information storage parts store 8 of the taste information included in the taste adapted data are matched and memorized.

[0127]As mentioned above, based on the taste information memorized by the taste information storage parts store 8, only the data which suits a televiewer's taste can be sorted out and memorized from the data broadcast by data broadcasting.

[0128]When turning OFF the power supply of the analog demodulation part 2, and an image, a sound and a data output part 3 and not displaying television imagery, Since it is not necessary to operate the interlocking data detector 5 to interlocking data detection, the data-broadcasting receiving decoder of the interlocking data detector 5 can be used for taste adapted data detection.

[0129]In this case, when not displaying television imagery and making it the channel tuned in in the automatic channel selection part 20 and a different channel tune in in the channel selection part 1, Taste adapted data is simultaneously detectable from the broadcast data of two different channels by two data-broadcasting receiving decoders of the data-broadcasting receiving decoder of the interlocking data detector 5, and the data-broadcasting receiving decoder of the taste adapted data primary detecting element 10.

[0130]The data-broadcasting receiving decoder for interlocking data detection and the

data-broadcasting receiving decoder for taste adapted data detection can also be made to serve a double purpose by one data-broadcasting receiving decoder. In this case, when not displaying television imagery, the channel selection part 1 can be used for reception of data broadcasting without forming the automatic channel selection part 20.

[0131](The display of data, printing, elimination) In a 1st embodiment. The data interlocked with television imagery is detected by the interlocking data detector 5, and by the interlocking data reproducing part 6. If a televiewer does the depression of the data print key 53 when the detected interlocking data is displayed on TV receiver 40, the interlocking data currently then displayed will be printed with the printer 60.

[0132]In displaying the taste adapted data memorized by the taste adapted data storage parts store 12 as mentioned above on TV receiver 40, a televiewer turns the data selection dial 51 of the television operation remote control 50, and calls the taste adapted data memorized by the taste adapted data storage parts store 12 one after another.

[0133]As it is shown in drawing 9 and mentioned above, the memory time to the taste adapted data storage parts store 12 of the detected taste adapted data is memorized by the taste adapted data storage parts store 12. When a televiewer turns the data selection dial 51 to the left, the regenerative data prescribed part 13, From the memory time memorized by this taste adapted data storage parts store 12, taste adapted data is specified sequentially from the taste adapted data memorized by the taste adapted data storage parts store 12 at the rear, and it calls from the taste adapted data storage parts store 12. The called taste adapted data is processed by the taste adapted data regenerating section 14, is outputted to an image, a sound, and the data output part 3, and is displayed on TV receiver 40.

[0134]Conversely, if the data selection dial 51 is turned to the right, the taste adapted data later memorized more by the taste adapted data storage parts store 12 will be displayed on TV receiver 40 one by one from the taste adapted data currently displayed at the time.

[0135]Thus, where the taste adapted data memorized by the taste adapted data storage parts store 12 is displayed on TV receiver 40, If a televiewer does the depression of the data print key 53 of the television operation remote control 50, the printing job of the taste adapted data currently then displayed will be carried out in the printing job part 15, it will be transmitted to the printer 60 from the infrared ray transmission section 46, and it will be printed as a picture with the printer 60.

[0136]In the state where it displayed on TV receiver 40, the taste adapted data similarly memorized by the taste adapted data storage parts store 12. If a televiewer does the depression of the data erasure key 54 of the television operation remote control 50, the taste adapted data currently then displayed will be eliminated from the taste adapted data storage parts store 12 by the taste adapted data erasing part 16.

[0137]Although the above-mentioned example is a case where the shelf-life of the data

which a broadcasting station broadcasts by data broadcasting is specified, When the empty storage capacity of the taste adapted data storage parts store 12 turns into below prescribed capacity, or when [after taste adapted data is memorized by the taste adapted data storage parts store 12,] predetermined time has passed, It may be made for the taste adapted data erasing part 16 to eliminate the taste adapted data memorized by the taste adapted data storage parts store 12.

[0138]In this case, the taste adapted data erasing part 16 judges the important point and needlessness of the taste adapted data memorized by the taste adapted data storage parts store 12 based on the dignity mark of the taste information memorized by the taste information storage parts store 8, The taste adapted data judged that is unnecessary is eliminated from the taste adapted data storage parts store 12.

[0139]As mentioned above, when the dignity mark of the taste information memorized by the taste information storage parts store 8 become zero point, in eliminating the taste information from the taste information storage parts store 8 automatically, When eliminating the taste information, it may be made to eliminate simultaneously taste adapted data including the taste information concerned of the taste adapted data memorized by the taste adapted data storage parts store 12 eliminated.

[0140](Modification) Although the example mentioned above is a case where the data which suits a televiewer's taste is sorted out from the data broadcast by the broadcasting station based on the taste information memorized by the taste information storage parts store 8, The data which suits a televiewer's taste is sorted out and it may be made to pick it out from the data memorized by the storage of the rewritable storage of a hard disk etc., CDROM, DVD-ROM, etc., etc. which is not rewritable based on the taste information memorized by the taste information storage parts store 8.

[0141]It may constitute so that the data which suits a televiewer's taste may be searched and taken out from a database or the Internet based on the taste information memorized by the taste information storage parts store 8.

[0142]For example, the taste information storage parts store 8 connects with a full-text search database by a telephone line automatically, and searches the data which suits a televiewer's taste with the timing which memorized new taste information. The full-text search method is a search method of discovering the document which reads the contents of all the texts in text data at the time of search, and contains the specified search string. Since it is used in many cases in order to search a homepage from the Internet, it is suitable to search the data which suits a televiewer's taste as mentioned above.

[0143]Or choose the cheap time zone of a telephone rate automatically, and it connects with a database or an Internet provider by a telephone line, It may constitute so that the data which suits a televiewer's taste may be searched and taken out from a database or the Internet based on the taste information memorized by the taste information storage parts store 8.

[0144]A plain text, animations, still pictures, sounds, or computer programs other than the Internet data of a HTML form may be sufficient as the data broadcast by data broadcasting.

[0145]As a method of transmitting data by the broadcasting electric-wave of terrestrial TV broadcasting, a sound subcarrier can also be used besides using the vertical blanking interval of a television video signal. In broadcasting data using a sound subcarrier, it sends data using the frequency for two channels as for which the audio signal is vacant. Since there is transmission capacity of about 9.6k bps per channel, in two channels, about 19.2k bps Internet data can be broadcast.

[0146]A 1st embodiment mentioned above is applicable also to the receiving system of digital television broadcasting. For example, the trial with which the digital satellite TV broadcasting using an artificial satellite also multiplexes and broadcasts the Internet data of a HTML form to the television imagery information and the television sound information that it digitized is started, When receiving this satellite data broadcasting, the Internet data by which high-speed transmission is carried out by about 1.5 Mbps(cs) can be received.

[0147][A 2nd embodiment] Although it is a case where a 1st embodiment specifies a televiewer's taste from the contents of data broadcasting broadcast within the TV program to which the televiewer viewed and listened, and taste information is extracted, Even when a broadcasting station is interlocked with a TV program and does not broadcast data, a televiewer's taste is specified and taste information is extracted, and the data which suits a televiewer's taste is sorted out and it enables it to pick it out from the data etc. which were broadcast in a 2nd embodiment based on the extracted taste information.

[0148]Of course, he only views and listens to his favorite TV program, and like [a 2nd embodiment] a 1st embodiment, even if a televiewer does not do specification of a report with registration of a keyword, or interest, etc., he can sort out and take out only data required for himself.

[0149]A 2nd embodiment is a case where this invention is applied to the receiving system of digital satellite TV broadcasting. PerfecTV by which the receiver which receives this digital satellite TV broadcasting is started in Japan, for example! It is a receiver which receives broadcast.

[0150]PerfecTV! In broadcast, the program table which should be displayed on a TV receiver can be distributed through radio, and, generally this structure is called an electronic program guide (EPG:Electric Program Guide). In EPG, the program table which could distribute introduction of a program name, a maker name, a star name, and the contents, etc., and was distributed can be memorized now in the memory of a TV receiver about the broadcast program of a maximum of 15 days after.

[0151]According to a 2nd embodiment, the information which shows a televiewer's taste is extracted by specifying the TV program to which the televiewer is viewing and

listening, and analyzing the program guide information of the specified TV program.

[0152]However, a 2nd embodiment can be applied also when distributing program guide information to a televiewer by methods other than broadcast, and can be applied also to the receiving system of terrestrial TV broadcasting so that it may mention later.

[0153](Composition and operation) Also by a 2nd embodiment, a receiving system is provided with TV receiver 40, TV antenna 41, the storage device part 44, the television operation remote control 50, and the printer 60 as a whole, as shown in drawing 1. However, as for the following examples, in the case of the receiving system of digital satellite TV broadcasting, TV receiver 40 and TV antenna 41 shall receive digital satellite TV broadcasting.

[0154]Drawing 10 shows the functional block composition of an example of the taste information selecting arrangement of a 2nd embodiment. The taste information selecting arrangement of this example is provided with an image, a sound and the data output part 3, and the data processing part 19, and an image, a sound, and the data output part 3 are constituted by the indicator and loudspeaker of TV receiver 40.

[0155]While the channel selection part 71, the video-audio-information regenerating section 72, the program-guide-information extraction part 73, the program-guide-information storage parts store 74, and the view program specific part 75 are connected to the system bath 4, the data processing part 19, . Have the respectively same function as it of a 1st embodiment which showed drawing 2. The taste information extraction part 7, the taste information storage parts store 8, the taste information indicator 9, the taste adapted data primary detecting element 10, the taste adapted data detection result notice part 11, the taste adapted data storage parts store 12, the regenerative data specification part 13, the taste adapted data regenerating section 14, the printing job part 15, the taste adapted data erasing part 16, And the control section 18 is connected and constituted.

[0156]When a televiewer views and listens to a TV program, the channel selection part 71, The digital-television-broadcasting signal of the TV program to which it views and listens is received, when a televiewer turns OFF the power supply of an image, a sound, and the data output part 3 and does not view and listen to a TV program, a channel is automatically changed to predetermined timing and a digital-television-broadcasting signal is always received.

[0157]The digital information from the channel selection part 71 is outputted to the system bath 4. The video-audio-information regenerating section 72 reproduces the video audio information in the digital information outputted to this system bath 4. That is, digital image information is processed so that it may display as television imagery, and digital sound information is processed so that it may reproduce as a television sound.

[0158]The program-guide-information extraction part 73 extracts the program guide information (program table) of EPG (electronic program guide) mentioned above from

the digital information outputted to the system bath 4, and the program-guide-information storage parts store 74 memorizes the extracted program guide information.

[0159]The view program specific part 75 specifies the TV program to which the televiewer is viewing and listening with reference to the program guide information memorized by the program-guide-information storage parts store 74 by the time (time) and television channel to which it is viewing and listening, while the televiewer is viewing and listening to a TV program.

[0160]And the taste information extraction part 7 extracts the information which shows a televiewer's taste by analyzing the program guide information about the TV program specified by the view program specific part 75 of the program guide information memorized by the program-guide-information storage parts store 74 by the same method as a 1st embodiment. The information extracted as information which shows this televiewer's taste is information on a program genre, a program donor, a performer, systematic name, the name of a place, an object name, or a proper noun.

[0161]The taste information storage parts store 8 learns and memorizes the taste information extracted by this taste information extraction part 7 like a 1st embodiment. The detection etc. of the data which suits a televiewer's taste by the taste adapted data primary detecting element 10 are the same as a 1st embodiment also about other points.

[0162]Therefore, even when according to a 2nd embodiment a broadcasting station is interlocked with a TV program and does not broadcast data, even if a televiewer does not do specification of a report with registration of a keyword, or interest, etc., only view and listen to one's favorite TV program, Only data required for itself can be sorted out and taken out.

[0163]When the taste adapted data regenerating section 14 reproduces the taste adapted data memorized by the taste adapted data storage parts store 12, Based on the taste information memorized by the taste adapted data storage parts store 12 corresponding to the taste adapted data to reproduce, the program guide information memorized by the program-guide-information storage parts store 74 is searched, The TV program corresponding to the taste adapted data to reproduce is specified, and the program identification information of the specified TV program is displayed on TV receiver 40.

[0164](Modification) Although the above-mentioned example is a case where a broadcasting station broadcasts program guide information, a broadcasting station etc. store program guide information in storages, such as CDROM, and it may be made to distribute this storage to a televiewer as a method of distributing program guide information to a televiewer. In this case, while that storage will constitute the program-guide-information storage parts store 74, the program-guide-information extraction part 73 becomes unnecessary.

[0165]Although the above-mentioned example is a case where the data which suits a televiewer's taste is sorted out from the broadcast data based on the taste information

memorized by the taste information storage parts store 8, Based on the taste information memorized by the taste information storage parts store 8, like the modification of a 1st embodiment, It sorts out or searches and may be made to take out the data which suits a televiewer's taste from the data memorized by a rewritable storage and storage which is not rewritable, or a database and the Internet.

[0166]Since program guide information can be superimposed on the broadcasting signal of terrestrial TV broadcasting, and can also be broadcast, and a storage can be made to be able to memorize as mentioned above and it can also distribute to a televiewer, a 2nd embodiment is applicable also to the receiving system of terrestrial TV broadcasting.

[0167][A 3rd embodiment] Although 1st and 2nd embodiments are the cases where a televiewer's taste is specified from the TV program to which the televiewer viewed and listened, A 3rd embodiment is a case where extract the information which shows a televiewer's taste more correctly and in detail, and it is memorized with reference to various kinds of operations by a televiewer in addition to the TV program to which the televiewer viewed and listened.

[0168]Drawing 11 adds the user's operation primary detecting element 21 to it of a 1st embodiment which showed the functional block composition of an example of the taste information selecting arrangement of a 3rd embodiment, and showed drawing 2.

[0169]The user's operation primary detecting element 21 set TV receiver 40 as the state in the interlocking data reproduction mode ON in this example by the interlocking data reproduction mode ON/OFF key 55 of the television operation remote control 50 shown in drawing 1. It detects having pressed the data print key 53, having carried out channel scan operation by the channel selection key in the other key groups 59, having eliminated the sound by the volume control key in the other key groups 59, having pressed the data erasure key 54, etc.

[0170]When the above-mentioned operation according [the taste information extraction part 7] to a televiewer by this user's operation primary detecting element 21 is detected, Judge whether the information which shows a televiewer's taste is extracted according to the detected kind or frequency of operation, and in extracting, In the neighborhood at the time of the operation being detected, the information which shows a televiewer's taste is extracted by analyzing the interlocking data detected by the interlocking data detector 5.

[0171]The taste information storage parts store 8 updates the taste information which changes dignity mark, and memorizes the taste information extracted by the taste information extraction part 7 according to the kind or frequency of operation by a televiewer detected by the user's operation primary detecting element 21, or is memorized by the taste information storage parts store 8.

[0172]The interlocking data which is then detected and is displayed during viewing and listening of a TV program when a televiewer sets TV receiver 40 as the state in the interlocking data reproduction mode ON by the interlocking data reproduction mode

ON/OFF key 55 has a high possibility of being data important for a televiewer.

[0173]Therefore, when having carried out operation for which a televiewer turns ON interlocking data reproduction mode while displaying television imagery is detected by the user's operation primary detecting element 21. The taste information extraction part 7 the interlocking data detected by the interlocking data detector 5 in the neighborhood at the time by analyzing by the same method as a 1st embodiment, The taste information which extracts the information which shows a televiewer's taste, the taste information storage parts store 8 gives high dignity mark to the extracted taste information, and memorizes the extracted taste information, or is memorized by the taste information storage parts store 8 is updated.

[0174]A 3rd embodiment as well as a 1st embodiment by the interlocking data detector 5. If a televiewer does the depression of the data print key 53 when the data interlocked with television imagery is detected and the detected interlocking data is shown to TV receiver 40 by the interlocking data reproducing part 6, the interlocking data currently then displayed will be printed with the printer 60. Also in this case, that interlocking data printed has a high possibility of being data important for a televiewer.

[0175]Therefore, when it is detected by the user's operation primary detecting element 21 that the televiewer did data print operation while displaying the received interlocking data. The taste information extraction part 7 extracts the information which shows a televiewer's taste by analyzing the interlocking data currently then displayed by the same method as a 1st embodiment, and the taste information storage parts store 8, The taste information which gives high dignity mark to the extracted taste information, and memorizes the extracted taste information, or is memorized by the taste information storage parts store 8 is updated.

[0176]As mentioned above in a 1st embodiment, where the taste adapted data memorized by the taste adapted data storage parts store 12 by operation of the data selection dial 51 is displayed on TV receiver 40, If a televiewer does the depression of the data print key 53, the taste adapted data currently then displayed will be printed with the printer 60. Also in this case, that taste adapted data printed has a high possibility of being data important for a televiewer. Therefore, the taste information storage parts store 8 raises the dignity mark of the taste information already memorized by the taste information storage parts store 8 contained in that taste adapted data currently displayed in this case.

[0177]On the other hand, when a televiewer performs channel scan operation frequently or a sound is eliminated during viewing and listening of a TV program, it is thought that the contents of the TV program under viewing and listening are not so important for a televiewer. Therefore, the taste information extraction part 7 is kept from extracting the information which shows a televiewer's taste in this case, even if the data interlocked with television imagery is detected by the interlocking data detector 5.

[0178]As mentioned above in a 1st embodiment, where the taste adapted data

memorized by the taste adapted data storage parts store 12 by operation of the data selection dial 51 is displayed on TV receiver 40, If a televiewer does the depression of the data erasure key 54, the taste adapted data currently then displayed will be eliminated from the taste adapted data storage parts store 12 by the taste adapted data erasing part 16. In this case, that taste adapted data eliminated has a high possibility which is not important for a televiewer. Therefore, the taste information storage parts store 8 lowers the dignity mark of the taste information already memorized by the taste information storage parts store 8 contained in that taste adapted data currently displayed in this case.

[0179]Although omitted in drawing 1, By providing a data recording key in the television operation remote control 50, and providing an interlocking data storage part in the data processing part 19 in the taste information selecting arrangement of each embodiment, The data interlocked with television imagery is detected by the interlocking data detector 5, and by the interlocking data reproducing part 6. If a televiewer does the depression of the data recording key when the detected interlocking data is displayed on TV receiver 40, the interlocking data currently then displayed can be memorized by the interlocking data storage part. In this case, that interlocking data recorded has a high possibility of being data important for a televiewer.

[0180]Therefore, when it is detected by the user's operation primary detecting element 21 that the televiewer did data recording operation while displaying the received interlocking data. The taste information extraction part 7 extracts the information which shows a televiewer's taste by analyzing the interlocking data currently then displayed by the same method as a 1st embodiment, and the taste information storage parts store 8, The taste information which gives high dignity mark to the extracted taste information, and memorizes the extracted taste information, or is memorized by the taste information storage parts store 8 is updated.

[0181]Besides the above-mentioned operation, a televiewer the data relevant to the data currently displayed on TV receiver 40, When data retrieval operation searched from the storage device part 44, the Internet, etc. is performed, Or when page switching operation of the data displayed on TV receiver 40 and link navigation operation of Internet data are performed frequently. As an important thing for a televiewer, while the data extracts taste information, When operation in which attach high dignity mark, and memorize the extracted taste information, and a televiewer displays program guide information during viewing and listening of a TV program is performed frequently, the contents of the TV program under viewing and listening can be prevented from extracting taste information as a not important thing for a televiewer.

[0182]As mentioned above, by according to a 3rd embodiment, determining whether extract taste information according to the kind or frequency of operation by a televiewer detected by the user's operation primary detecting element 21, and changing the dignity mark of taste information, The information which shows a televiewer's taste can be

extracted more correctly and in detail, and can be memorized.

[0183][A 4th embodiment] 1st, 2nd, and 3rd embodiments are the cases where only the data which suits a viewer's taste in the data superimposed and broadcast by the television broadcasting signal is recorded. However, when the taste adapted data recorded is the data interlocked with television imagery, even if only data is recorded in this way and it reproduces later, the viewer may be unable to understand the contents.

[0184]For example, when handling notes of the goods introduced by this commercial video image are broadcast by text data in connection with the commercial video image for 15 seconds, even if this text data is detected as taste adapted data, The information recorded on a receiver is the text data, i.e., handling notes of goods, and when a viewer looks at data afterwards, the appearance of goods, a use, directions for use, an effect, etc. may not understand it.

[0185]Namely, as for data broadcasting, in the case of the TV program which interlocked television imagery broadcast and data broadcasting, it is common to be used as a means which gives the supplementary information over television imagery or a television sound, and only the data of data broadcasting is recorded, Even if it reproduces later, the viewer may be unable to understand the contents.

[0186]Then, when recording data selected as data which suits a viewer's taste, the taste adapted data, and the television imagery and the television sound which were interlocked with this are matched mutually, and are recorded, and it enables it to reproduce simultaneously later in a 4th embodiment.

[0187](Elements of the Invention) As opposed to it of a 1st embodiment which drawing 12 showed the functional block composition of an example of the taste information selecting arrangement of a 4th embodiment, and showed drawing 2, The digital conversion part 23, the taste conformity video voice section specific part 24, the taste conformity video-audio-information storage parts store 25, and the taste conformity video-audio-information regenerating section 26 are added.

[0188]However, since taste adapted data is chosen from the data interlocked with television imagery in a 4th embodiment, a viewer, At the time of taste adapted data detection memory, the power supply of TV receiver 40 containing the channel selection part 1 is turned ON, a television channel to view and listen is tuned in and television imagery is displayed on TV receiver 40. That is, in a 4th embodiment, only when television imagery is displayed on TV receiver 40, taste adapted data is chosen from the data interlocked with the television imagery. Therefore, in a 4th embodiment, it does not have the automatic channel selection part 20 shown in drawing 2. In this example, one data-broadcasting receiving decoder is made serve a double purpose and used in the interlocking data detector 5 and the taste adapted data primary detecting element 10.

[0189]The digital conversion part 23 so that it may mention later by the interlocking data detector 5 and the taste adapted data primary detecting element 10. When taste

adapted data is detected from the data interlocked with television imagery, the analog video audio signal recovered from the analog demodulation part 2 is changed into digital image speech information, and it outputs to the system bath 4.

[0190]The taste conformity video voice section specific part 24 specifies the section of the video audio information which should be matched with the detected taste adapted data, and should be memorized based on the detected timing, when taste adapted data is detected from the data interlocked with television imagery.

[0191]The taste conformity video-audio-information storage parts store 25 matches the digital image speech information from the digital conversion part 23 in the section specified by this taste conformity video voice section specific part 24 with the detected above-mentioned taste adapted data, memorizes it, and is provided in the storage device part 44.

[0192]When the taste adapted data in which the taste conformity video-audio-information regenerating section 26 was memorized by the taste adapted data storage parts store 12 is reproduced by the taste adapted data regenerating section 14, The video audio information memorized corresponding to the taste adapted data concerned of the video audio information memorized by the taste conformity video-audio-information storage parts store 25 reproduced is reproduced simultaneously.

[0193](Operation at the time of renewal of taste information) The operation at the time of renewal of taste information is the same as a 1st embodiment shown in drawing 3. Namely, by analyzing the contents of data broadcasting broadcast within the TV program to which the televiewer viewed and listened at the time of reception of the TV program broadcast which television imagery broadcast and data broadcasting were interlocked with at the time of renewal of taste information, While extracting the information which shows a televiewer's taste, this extracted taste information is learned and the taste information memorized by the taste information storage parts store 8 is updated.

[0194](Operation at the time of taste adapted data detection memory) At the time of taste adapted data detection memory. Based on the taste information memorized by the taste information storage parts store 8, taste adapted data data is detected from the data interlocked with television imagery, The television imagery and the television sound of the section which were specified based on the timing from which the taste adapted data was detected are memorized to the taste conformity video-audio-information storage parts store 25 at the same time it memorizes to the taste adapted data storage parts store 12.

[0195]Drawing 13 is shown and the taste adapted data detection memory processing routine which the data processing part 19 performs at the time of this taste adapted data detection memory in that taste adapted data detection memory processing routine 300. In Step 301, it is judged first whether the data interlocked with the television imagery in the data broadcast by data broadcasting by the data-broadcasting receiving decoder of

the taste adapted data primary detecting element 10 and the data-broadcasting receiving decoder of the interlocking data detector 5 of combination was detected.

[0196]In this example, like a 1st embodiment, that interlocking data, As shown in drawing 4, it was expressed by multi-part type MIME syntax, and it is shown in the 1st object of them that it is interlocking data which should be reproduced by interlocking with [television sound / television imagery and] the digital data concerned.

[0197]When the interlocking data detector 5 detects interlocking data, The taste adapted data detection memory processing routine 300, From Step 301, progress to Step 302 and by the data-broadcasting receiving decoder of the above-mentioned combination. In [decode MIME data, progress to Step 303 further, and] the taste adapted data primary detecting element 10, It is judged whether the detected interlocking data is data which suits a viewer's taste by comparing the interlocking Internet data of the decoded result of the MIME data based on the data-broadcasting receiving decoder of combination with the taste information memorized by the taste information storage parts store 8. The decision criterion is the same as that of a 1st embodiment.

[0198]When it judges that the interlocking data which progressed to Step 304 and was conversely detected at Step 303 when it judged that the detected interlocking data is data which suits a viewer's taste is data which does not suit a viewer's taste, it returns to Step 301.

[0199]In Step 304, in the digital conversion part 23, when the taste adapted data primary detecting element 10 detects taste adapted data from interlocking data, analog video speech information is incorporated from the analog demodulation part 2, and it changes into digital image speech information. The conversion process in this digital conversion part 23 is continued for 15 seconds in the predetermined time determined by the taste conformity video voice section specific part 24 and this example.

[0200]Next, in Step 305, the digital image speech information for for the 15 seconds is memorized to the taste conformity video-audio-information storage parts store 25. That is, when the taste adapted data primary detecting element 10 detects taste adapted data from interlocking data, the taste conformity video-audio-information storage parts store 25 starts memory of digital image speech information, and memorizes digital image speech information by for 15 seconds in this example. Drawing 14 (A) shows an example of the memory state of the taste conformity video-audio-information storage parts store 25.

[0201]Next, in Step 306, the taste adapted data detected by the taste adapted data primary detecting element 10 is memorized to the taste adapted data storage parts store 12, and it returns to Step 301. In this case, as shown in drawing 14 (B), to the taste adapted data storage parts store 12. The detected taste adapted data and the memory time to the taste adapted data storage parts store 12 of the taste adapted data, While [15 seconds] the taste information number in the taste information storage parts store 8 and its taste adapted data of the taste information included in the taste adapted data were

interlocked with, the memory address in the taste conformity video-audio-information storage parts store 25 of the digital image speech information of a part is matched and memorized.

[0202]Although the above-mentioned example is a case where the duration time of the conversion process in the digital conversion part 23 determined by the taste conformity video voice section specific part 24 thru/or the time of digital image speech information which should be memorized are fixed in 15 seconds, It can make it possible to change this time freely by a televiewer.

[0203]It is not necessary to necessarily fix the time length of the television imagery to record and a television sound, and to further necessarily set the time of taste adapted data being detected as the television imagery and recording start time of a television sound.

[0204]For example, while carrying out digital conversion of the analog video speech information from the analog demodulation part 2 and always storing temporarily the digital image speech information after conversion in the digital conversion part 23 at a buffer, [in the taste conformity video voice section specific part 24, detect the scene change of a TV program from the digital image information or digital sound information after the conversion, and / within the section from the detected scene starting point to a scene end point], When taste adapted data is detected by the taste adapted data primary detecting element 10, While recording the detected taste adapted data on the taste adapted data storage parts store 12, the digital image speech information in the section is also recordable on the taste conformity video-audio-information storage parts store 25 from the above-mentioned buffer.

[0205]In this case, as a method of detecting a scene change from video information, the publicly known inter-frame difference detection method which is indicated to JP,4-286293,A can be used. Since according to this method a camera cut changes and timing can be detected, that camera cut changes, a scene changes and timing can be used as timing.

[0206]In addition to this as a method of detecting a scene change, detection results, such as detection results, such as a motion of the person and object in video information, a luminance change, and classification-by-color cloth change, a sound volume change in speech information, a voice addresser's shift, a voice pattern, an audio keyword, can also be used.

[0207](The display of data, elimination, printing) In displaying the taste adapted data memorized by the taste adapted data storage parts store 12 as mentioned above on TV receiver 40, Like a 1st embodiment, a televiewer turns the data selection dial 51 of the television operation remote control 50, and calls the taste adapted data memorized by the taste adapted data storage parts store 12 one after another. The called taste adapted data is processed by the taste adapted data regenerating section 14, is outputted to an image, a sound, and the data output part 3, and is displayed on TV receiver 40.

[0208]A televiewer does the depression of the abridged video voice reproduction key by drawing 1 of the television operation remote control 50 to hear a television sound, when you want to see the displayed taste adapted data and to watch the television imagery corresponding to it.

[0209]By this, the taste conformity video-audio-information regenerating section 26, . As shown in drawing 14 (B), the taste adapted data storage parts store 12 memorizes. From the memory address of the video audio information in the taste conformity video-audio-information storage parts store 25, the video audio information corresponding to the taste adapted data currently then displayed is specified, The specified video audio information is incorporated from the taste conformity video-audio-information storage parts store 25, and is processed, and it outputs to an image, a sound, and the data output part 3. On the display screen of TV receiver 40, the television imagery corresponding to the taste adapted data is displayed with taste adapted data by this, and the television sound corresponding to the taste adapted data is reproduced from a loudspeaker by it.

[0210]Where the taste adapted data memorized by the taste adapted data storage parts store 12 by operation of the data selection dial 51 as mentioned above is displayed on TV receiver 40, If a televiewer does the depression of the data erasure key 54 of the television operation remote control 50, while the taste adapted data currently then displayed will be eliminated from the taste adapted data storage parts store 12 by the taste adapted data erasing part 16, The video audio information corresponding to the taste adapted data of the video audio information memorized by the taste conformity video-audio-information storage parts store 25 eliminated is eliminated from the taste conformity video-audio-information storage parts store 25.

[0211>About printing of taste adapted data, it is the same as a 1st embodiment.

[0212](EFFECT OF THE INVENTION) As mentioned above, when displaying the taste adapted data recorded on the taste adapted data storage parts store 12 according to a 4th embodiment, the taste adapted data, and the television imagery and the television sound which were interlocked with this can be reproduced simultaneously, and when data is seen afterwards, it is [become] easier for a televiewer to understand the contents of data.

[0213][A 5th embodiment] A 5th embodiment views and listens to its favorite TV program, and even if a televiewer registers beforehand neither a keyword nor the genre of a report which wants to receive, it only carries out easy operation, A taste information selecting arrangement is a case where the electronic newspaper for televiewer individuals which specified the televiewer's taste and reflected the interest of the televiewer who gained is created automatically.

[0214]When data broadcasting of the report relevant to the television news which the televiewer watched in the last evening is carried out to the next morning as a newspaper article, it enables it to create the electronic newspaper for televiewer individuals which

incorporated the report preferentially in a 5th embodiment.

[0215]although he would like to watch television news, to get interested in the reported contents, and to come to get to know deeply about the contents, and the case where a newspaper and a magazine are read is alike occasionally and has been carried out, Even if a televiewer registers beforehand neither a keyword nor the genre of a report which wants to receive, a 5th embodiment only carries out easy operation, watching television news, and enables it to create automatically the electronic newspaper reflecting the televiewer's interest for televiewer individuals in this case.

[0216](Elements of the Invention) As opposed to it of a 1st embodiment which drawing 15 showed the functional block composition of an example of the taste information selecting arrangement of a 5th embodiment, and showed drawing 2. The taste adapted data editorial department 28 which processes for printing of an electronic newspaper is formed instead of the printing job part 15 which added the user's operation primary detecting element 21, was made into the taste adapted data editorial department which processes for the display of an electronic newspaper so that the taste adapted data regenerating section 14 might be mentioned later, and was mentioned above.

[0217]Although drawing 1 does not show, as shown in drawing 15, the follow-up key 58 is formed in the television operation remote control 50. A televiewer enables it to perform link navigation operation (page switching operation) in this example to the interlocking Internet data currently displayed on TV receiver 40.

[0218]Like a 1st embodiment, the power supply of the channel selection part 1, the analog demodulation part 2, and an image, a sound and a data output part 3 is turned OFF, and it has the automatic channel selection part 20 so that taste adapted data can be detected and memorized also in the state where television imagery is not displayed on TV receiver 40.

[0219](Operation at the time of renewal of taste information) It will want, if a televiewer wants to collect the data of the newspaper article etc. which were interlocked with television imagery at the time of renewal of taste information during viewing and listening of a TV program, and this will be detected by the user's operation primary detecting element 21 if the depression of the follow-up key 58 is carried out.

[0220]And in the neighborhood at the time of it being detected that the follow-up key 58 was pressed by the user's operation primary detecting element 21 as for the taste information extraction part 7, By being broadcast by data broadcasting and analyzing the contents of the interlocking data detected by the interlocking data detector 5 by the same method as a 1st embodiment, The information which shows a televiewer's taste is extracted and the extracted taste information is memorized to the taste information storage parts store 8 as very high taste information of importance.

[0221]Thus, view and listen to one's favorite TV program, and even if a televiewer registers beforehand neither a keyword nor the genre of a report which wants to receive, the depression of the follow-up key 58 is only carried out, So that its taste can be made

to specify to a device and it may mention later, Only the data (newspaper article) relevant to the television imagery to which it was viewing and listening when the follow-up key 58 was pressed can be chosen from the data (newspaper article) broadcast by data broadcasting while not viewing and listening to TV programs, such as night and early morning, as taste adapted data.

[0222]When the follow-up key 58 is pressed, it may be made to display the list of the taste information extracted by the taste information extraction part 7 on TV receiver 40 by the taste information indicator 9. It is convenient if you enable it to attach a priority by operation with the television operation remote control 50 etc. to each of the taste information displayed in this case.

[0223]While the interlocking Internet data detected by the interlocking data detector 5 are displayed on TV receiver 40 in this example, When a televiewer performs link navigation operation frequently to the interlocking Internet data currently displayed, Namely, also when page switching operation is performed over more than prescribed frequency in unit time, the user's operation primary detecting element 21, Consider that the data currently then displayed is data important for a televiewer, detect the link navigation operation, and the taste information extraction part 7, By analyzing the contents of the interlocking data currently then displayed, the information which shows a televiewer's taste is extracted and the extracted taste information is memorized to the taste information storage parts store 8 as taste information with high importance.

[0224]Drawing 16 shows an example of the memory state of the taste information storage parts store 8 in the time of finishing a taste information update process, and a televiewer within the news program of a "news station", To the timing it is broadcast that the media account of "the food poisoning by E. coli bacillus O-157" is. . Pressed the follow-up key 58 and television imagery broadcast and data broadcasting interlocked, respectively. The sports program of "professional baseball news flash", the sports program of a "World-Cup-qualifiers relay broadcast", And in the midst of seeing the portion attached and reported to the "Hong-Kong-handover commemorative ceremony" of the news program of a "news station", it is a case where link navigation operation is frequently performed to interlocking data on display.

[0225]While the report title attached to the interlocking data concerned is memorized by the taste information storage parts store 8 as taste information, A TV program name and a G code, and the dignity mark of the taste information extracted from each interlocking data are memorized by the program identification information of the TV program which broadcast each interlocking data, i.e., this example. In this example, the dignity mark of the taste information extracted from each interlocking data are the number of times of page switching performed when each interlocking data was displayed. However, about the taste information memorized corresponding to the follow-up key 58 having been pressed, 20 points which are mark high as dignity mark are memorized.

[0226](Operation at the time of taste adapted data detection memory) At the time of

taste adapted data detection memory. By the same method as a 1st embodiment shown in drawing 6, based on the taste information memorized by the taste information storage parts store 8, the data (newspaper article) which suits a televiewer's taste is chosen from the data (newspaper article) broadcast by data broadcasting, and it memorizes to the taste adapted data storage parts store 12.

[0227]A morphological analysis divides into each element word phrase the taste information memorized by the taste information storage parts store 8, and detection of the taste adapted data in this embodiment is performed by comparing these each element word phrase and received data (newspaper article).

[0228]Since the data which the automatic channel selection part 20 changed the receiving channel to predetermined timing, and was broadcast by data broadcasting is always received, Even while televiewers, such as night and early morning, are not viewing and listening to a TV program, when a televiewer presses the follow-up key 58 from the data (newspaper article) broadcast by data broadcasting, Or only the data (newspaper article) relevant to the television imagery to which it was viewing and listening when link navigation operation was performed frequently comes to be chosen as taste adapted data.

[0229](Printing of taste adapted data, display) In this embodiment. In the time which the televiewer specified beforehand, the taste adapted data editorial department 28 calls automatically two or more taste adapted data memorized by the taste adapted data storage parts store 12 at the time of taste adapted data detection memory from the taste adapted data storage parts store 12, Editing processing is carried out to printing and a printout is carried out as an electronic newspaper for televiewer individuals with the printer 60.

[0230]That is, if the time which televiewers, such as 7:00 of a morning, specified beforehand, for example comes, the taste adapted data editorial department 28 will call two or more taste adapted data memorized by the taste adapted data storage parts store 12, and will edit into printing. In this case, the taste adapted data editorial department 28 chooses the taste adapted data which is memorized by the taste information storage parts store 8 and which is published to the electronic newspaper to print according to the dignity mark of each taste information, as shown in drawing 16, and it determines the layout thru/or print format of an electronic newspaper.

[0231]The example of the electronic newspaper which drawing 17 was arranged and was printed is shown, and the thing which has the high dignity mark memorized by the taste information storage parts store 8 of the taste information used as the search key for detecting taste adapted data is arranged in the upper part of the electronic newspaper.

[0232]Namely, in the taste information memorized by the taste information storage parts store 8 as shown in drawing 16, The newspaper article (taste adapted data) for which the taste information of "generation states, such as food poisoning by E. coli bacillus O-157," detected the taste information of the "generation states, such as food

poisoning by E. coli bacillus O-157," as a search key since dignity mark were the highest is arranged at the top part of the electronic newspaper.

[0233]To an electronic newspaper, the TV program name memorized by the taste information storage parts store 8 and the program identification information obtained by decoding a G code are matched with a newspaper article, and is printed. This shows immediately the report relevant to which TV program to which the article in an electronic newspaper viewed and listened before the televiewer who reads an electronic newspaper is.

[0234]In the case of drawing 17, it is shown that the electronic newspaper report about "generation states, such as food poisoning by E. coli bacillus O-157," is related to the contents broadcast in the TV program "the news station to which the televiewer viewed and listened in the last evening", for example.

[0235]The program identification information of the TV program which is not yet broadcast may be sufficient as the information printed with an electronic newspaper report besides the program identification information of the TV program to which the televiewer already viewed and listened.

[0236]For example, it is PerfecTV although it is a case of digital satellite TV broadcasting! In EPG (electronic program guide) of broadcast, as mentioned above, introduction of a program name, a maker name, a star name, and the contents, etc. can be distributed now about the broadcast program of a maximum of 15 days after. Therefore, the program identification information produced by comparing the taste information memorized by the contents and the taste information storage parts store 8 of this EPG can be printed with an electronic newspaper report.

[0237]Therefore, at the time of taste adapted data detection memory, from the newspaper article broadcast by data broadcasting specifically. When the newspaper article (taste adapted data) which suits the taste information memorized by the taste information storage parts store 8 is detected, EPG is searched by using taste information which became a basis of this detected newspaper article as a search key.

[0238]And when the contents which suit taste information are detected in EPG, program broadcast identification information, such as a program name of the TV program which suits this taste information, a program broadcast time zone, and a program broadcast station name, is memorized to the taste adapted data storage parts store 12 with the detected newspaper article. And at the time of taste adapted data reproduction, i.e., the printout of an electronic newspaper, the program identification information of the TV program relevant to the newspaper article memorized by this taste adapted data storage parts store 12 and this newspaper article is printed simultaneously.

[0239]By this, a televiewer understands the broadcast schedule of a TV program with concern high for himself by reading an electronic newspaper.

[0240]When the televiewer is viewing and listening to a TV program in the above-mentioned time specified beforehand, In parallel to the edit for printing by the

taste adapted data editorial department 28 which mentioned above, and a printout with the printer 60, the taste adapted data regenerating section 14, Two or more taste adapted data memorized by the taste adapted data storage parts store 12 is called, editing processing is carried out to a display, and it outputs to an image, a sound, and the data output part 3. Therefore, the televisioner can see an electronic newspaper also in the display screen of TV receiver 40.

[0241]Also in the taste adapted data regenerating section 14, the taste adapted data which is memorized by the taste information storage parts store 8 and which is published to the electronic newspaper to display according to the dignity mark of each taste information is chosen, and the layout thru/or display form of an electronic newspaper is determined.

[0242]When the televisioner is not viewing and listening to a TV program in the above-mentioned time specified beforehand, Then, when the power supply of the channel selection part 1, the analog demodulation part 2, and an image, a sound and a data output part 3 is turned ON, An electronic newspaper can be displayed on TV receiver 40 as mentioned above by carrying out the depression of the data display key provided in the television operation remote control 50 automatically.

[0243](EFFECT OF THE INVENTION) When a televisioner views and listens to this news program, and data broadcasting of the keyword which shows the outline of the news which is interlocked with a news program and broadcast by that news program, for example from the television broadcasting station 30 at the evening, night, etc. is carried out according to a 5th embodiment mentioned above and he presses the follow-up key 58, the keyword which shows the outline of the news broadcast by that news program will be memorized by the taste information storage parts store 8.

[0244]A taste information selecting arrangement at and the time etc. when night and the next morning are early, for example. From the television broadcasting station 30, out of the newspaper article by which data broadcasting was carried out, a televisioner chooses preferentially the report related to the topic seen by news, and memorizes it, For example, the televisioner specified, to the next morning, the report which carried out the selective memory is edited as an electronic newspaper for televisioner individuals, and a printout is carried out with the printer 60, or it is displayed on TV receiver 40 at it.

[0245]Therefore, even if a televisioner registers beforehand neither a keyword nor the genre of a report which wants to receive, he views and listens to his favorite TV program, only does easy operation, and can receive the newspaper only for himself which incorporated only its interested report at arbitrary time.

[0246][Other embodiments] Although each embodiment mentioned above is a case where this invention is applied to the receiving system of television broadcasting, this invention is applicable also to the receiving system of a radio broadcast.

[0247][Various kinds of embodiments and effect] In this invention, the respectively following effects are acquired by using the following embodiments.

[0248](1) By receiving the TV program broadcast which television imagery broadcast and data broadcasting were interlocked with, and analyzing the contents of data broadcasting broadcast within the TV program to which the televiewer viewed and listened, The information which shows a televiewer's taste is extracted, based on this extracted taste information, it chooses or searches and the data which suits a televiewer's taste is taken out from broadcast data or the information memorized by storages, such as CDROM, or communication destinations, such as the Internet and a database. A televiewer only views and listens to his favorite TV program, and can take out data required for himself selectively by this.

[0249](2) Based on the time and the television channel to which the televiewer is viewing and listening and which memorize the program guide information distributed by broadcast etc., By specifying the program guide information corresponding to the TV program of the memorized program guide information and under viewing and listening, and analyzing this specified program guide information, The information which shows a televiewer's taste is extracted, based on this extracted taste information, it chooses or searches and the data which suits a televiewer's taste is taken out from broadcast data or the information memorized by storages, such as CDROM, or communication destinations, such as the Internet and a database. A televiewer only views and listens to his favorite TV program, and even when the data interlocked with television imagery is not broadcast by this, by it, he can take out data required for himself selectively.

[0250](3) By analyzing the interlocking data or program guide information used as the analytical object of the taste information extracting processing by a taste information extraction part, carry out weighting of the taste information extracted by the taste information extraction part, and memorize it to a taste information storage parts store. By this, a televiewer only views and listens to his favorite TV program, can make the degree of a televiewer's taste reflect in taste adapted data detection, and can take out data more nearly required for a televiewer preferentially.

[0251](4) Lower automatically the dignity of the taste information memorized by the taste information storage parts store with the passage of time. By this, also when a televiewer's interest and concern move to others, selection of the data which suits a televiewer's taste can be coped with exactly.

[0252](5) When the dignity of the taste information memorized by the taste information storage parts store becomes below in a predetermined value, eliminate the taste information from a taste information storage parts store automatically. By this, when the televiewer's interest and concern moved to others, the data which became the outside of an object is certainly excludable from the retrieval object of the data which suits a televiewer's taste.

[0253](6) Extract the information which shows a televiewer's taste by detecting the operation which the televiewer performed during viewing and listening of a TV

program, and analyzing the data broadcast in the neighborhood at the time of [the] being detected. Even when a televiewer's taste cannot be grasped correctly, by this, the information which shows a televiewer's taste can be extracted more correctly and in detail, because the televiewer only viewed and listened to a TV program.

[0254](7) Data print operation, data recording operation which the televiewer performed during viewing and listening of a TV program, Interlocking data display operation, data erasure operation, data retrieval operation, volume change operating, Operation of channel scan operation, program-guide-information display operation, public line use operation, etc. is detected, It judges whether the information which shows a televiewer's taste is extracted according to the detected kind or frequency of operation, and in extracting, it extracts the information which shows a televiewer's taste by analyzing the data broadcast in the neighborhood at the time of the operation being detected. Even when a televiewer's taste cannot be grasped correctly, by this, the information which shows a televiewer's taste can be extracted more correctly and in detail, because the televiewer only viewed and listened to a TV program.

[0255](8) According to the kind or frequency of the operation performed during viewing and listening of a TV program, a televiewer changes dignity and memorizes the taste information extracted by the taste information extraction part. Even when a televiewer's taste cannot be grasped correctly, by this, the information which shows a televiewer's taste can be extracted more correctly and in detail, because the televiewer only viewed and listened to a TV program.

[0256](9) The interlocking data detected by the interlocking data detector, the program guide information specified by the view program specific part, Or the characteristic keyword showing the contents of a TV program or the radio program is extracted from the data reproduced by the user's operation primary detecting element in the neighborhood at the time of operation by a televiewer being detected, and this extracted keyword is extracted as information which shows a televiewer's taste. The information which shows a televiewer's taste by this using publicly known morphological-analysis art or whole sentence analysis technology can be extracted easily.

[0257](10) Enable it to reproduce the taste adapted data which provided the taste adapted data storage parts store and the taste adapted data regenerating section, memorized the taste adapted data detected by the taste adapted data primary detecting element to the taste adapted data storage parts store, and was memorized by the taste adapted data storage parts store by a taste adapted data regenerating section. By this, the televiewer can see broadcast data required for himself slowly later.

[0258](11) When eliminating the taste information memorized by the taste information storage parts store, eliminate simultaneously the taste adapted data specified by the eliminated taste information concerned of the taste adapted data memorized by the taste adapted data storage parts store. By this, when the televiewer's interest and concern moved to others, the data which became the outside of an object is automatically

eliminable from a taste adapted data storage parts store.

[0259](12) When taste adapted data is detected from the data broadcast by being interlocked with video information or speech information, specify the section of the video information or speech information corresponding to the detected taste adapted data by a taste conformity video voice section detection part based on the detection timing. By this, when memorizing or displaying the detected taste adapted data, the video information or speech information interlocked with this taste adapted data can be memorized or displayed simultaneously, and the contents of taste adapted data become intelligible for a televiewer.

[0260](13) Match the video information or speech information of the section specified by the taste conformity video voice section specific part with the taste adapted data detected by the taste adapted data primary detecting element, and memorize it to a taste conformity video-audio-information storage parts store. When reproducing the taste adapted data memorized by the taste adapted data storage parts store by this, the video information or speech information interlocked with the taste adapted data can be reproduced simultaneously, and the contents of the reproduced taste adapted data become intelligible for a televiewer.

[0261](14) When reproducing the taste adapted data memorized by the taste adapted data storage parts store, reproduce simultaneously the video information or speech information corresponding to the taste adapted data concerned of the video information or speech information which were memorized by the taste conformity video-audio-information storage parts store reproduced. Even when data is broadcast as supplementary information over television imagery or a television sound by this, the contents of the reproduced data become intelligible for a televiewer.

[0262](15) When eliminating the taste adapted data memorized by the taste adapted data storage parts store, eliminate simultaneously the video information or speech information specified with the taste adapted data concerned of the video information or speech information which are memorized by the taste conformity video-audio-information storage parts store eliminated. The time and effort which eliminates separately the video information or speech information which became unnecessary by this can be saved.

[0263](16) When the empty storage capacity of a taste adapted data storage parts store turns into below prescribed capacity, or when [after taste adapted data is memorized by the taste adapted data storage parts store,] predetermined time has passed, The taste adapted data judged the important point and needlessness of the taste adapted data memorized by the taste adapted data storage parts store based on the dignity of the taste information memorized by the taste information storage parts store, and judged that is unnecessary is eliminated from a taste adapted data storage parts store. Even when data is broadcast by this without a broadcasting station's specifying the shelf-life of broadcast data, the data which became unnecessary can be automatically eliminated

from a TV receiver.

[0264](17) Tell visually or auditorily to a televiewer that taste adapted data was detected by the taste adapted data primary detecting element by a taste adapted data detection result notice part. By this, the televiewer can know immediately that the data which suits its taste exists in the broadcast data.

[0265](18) The taste information from which the taste information storage parts store was extracted by the taste information extraction part, Match, memorize the program identification information for identifying the TV program or radio program it was broadcast that this taste information was, and a taste adapted data storage parts store, Match, memorize the taste adapted data detected by the taste adapted data primary detecting element and the taste information used for detection of this taste adapted data, and a taste information indicator, When the taste adapted data memorized by the taste adapted data storage parts store is reproduced by the taste adapted data regenerating section, while displaying the taste information memorized by the taste adapted data storage parts store corresponding to this taste adapted data reproduced, It constitutes so that the program identification information memorized by the taste information storage parts store corresponding to this taste information may be displayed. By this, the TV program name to which the televiewer viewed and listened in the past can be displayed on the side of the displayed taste adapted data, for example, Since it can be known easily whether the reproduced taste adapted data is taste adapted data which is related to which TV program or radio program to which he viewed and listened before, it becomes easy to understand the contents of the reproduced data.

[0266](19) When editing and displaying two or more taste adapted data detected by the taste adapted data primary detecting element or two or more taste adapted data which were memorized by the taste adapted data storage parts store, determine the layout or form of a display according to the dignity of the taste information memorized by the taste information storage parts store. By this, the strong data of the degree of taste can be arranged at a legible place, and it can provide for a televiewer, and the degree of its interest can read a televiewer sequentially from strong data, and he can advance.

[0267](20) When editing and printing two or more taste adapted data detected by the taste adapted data primary detecting element or two or more taste adapted data which were memorized by the taste adapted data storage parts store, determine the layout or form of printing according to the dignity of the taste information memorized by the taste information storage parts store. By this, while being able to create an electronic newspaper, the televiewer can read and advance a newspaper article sequentially from a report with a strong degree of his interest so that it can say that it arranges on the whole surface of an electronic newspaper by the ability to make a report with high importance into top news.

[0268](21) A taste adapted data storage parts store the taste adapted data detected by the taste adapted data primary detecting element, Match with the taste information used for

detection of this taste adapted data, memorize, and a taste adapted data regenerating section, When reproducing the taste adapted data memorized by the taste adapted data storage parts store, Taste information memorized by the taste adapted data storage parts store corresponding to this taste adapted data to reproduce is used as a search key, The program guide information memorized by the program-guide-information memory measure is searched, and the TV program or radio program corresponding to this taste adapted data to reproduce is specified, and it constitutes so that this specified program identification information of a TV program or a radio program may be displayed. The newspaper article which suits a televiewer's taste when creating the electronic newspaper which consists of two or more taste adapted data memorized by the taste adapted data storage parts store by this, for example, Being able to match and display the name and broadcasting-hours belt of a TV program which are due to broadcast the contents relevant to this newspaper article, a televiewer understands the broadcast schedule of a television broadcasting program with concern high for himself by reading an electronic newspaper.

[0269]

[Effect of the Invention]Also in the broadcast type data service by which the same information is transmitted to a target on the other hand to all the televiewers according to one invention of claims 1-6 as mentioned above, Even if a televiewer does not do specification of a report with registration of a keyword, or interest, etc., he only views and listens to his favorite TV program or radio program, While being able to sort out and take out only data required for oneself, even when a televiewer's interest changes, it is not necessary to reregister a keyword one by one.

[0270]When recording the data which suits a televiewer's selected taste according to the invention of claim 12, When the image or sound of the television relevant to this or radio can be recorded simultaneously and it reproduces the recorded data, the image or sound of the television relevant to this or radio can be reproduced simultaneously.

[0271]According to the invention of claim 18, the electronic newspaper reflecting the interest of the televiewer who gained when a televiewer views and listened to a TV program or a radio program for televiewer individuals can be automatically created now.

DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]

[Drawing 1]It is a figure showing an example of the system configuration of a 1st embodiment.

[Drawing 2]It is a figure showing an example of the functional block composition of a 1st embodiment.

[Drawing 3] It is a figure showing an example of the taste information update process routine of a 1st embodiment.

[Drawing 4] It is a figure showing an example of the interlocking data of a 1st embodiment.

[Drawing 5] It is a figure with which explanation of renewal of the taste information in a 1st embodiment is presented.

[Drawing 6] It is a figure showing an example of the taste adapted data detection memory processing routine of a 1st embodiment.

[Drawing 7] It is a figure showing an example of the broadcast data of a 1st embodiment.

[Drawing 8] It is a figure showing an example of the notifying method of the taste adapted data detection result in a 1st embodiment.

[Drawing 9] It is a figure showing an example of the memory state of the taste adapted data storage parts store of a 1st embodiment.

[Drawing 10] It is a figure showing an example of the functional block composition of a 2nd embodiment.

[Drawing 11] It is a figure showing an example of the functional block composition of a 3rd embodiment.

[Drawing 12] It is a figure showing an example of the functional block composition of a 4th embodiment.

[Drawing 13] It is a figure showing an example of the taste adapted data detection memory processing routine of a 4th embodiment.

[Drawing 14] It is a figure showing an example of the memory state of the taste conformity video-audio-information storage parts store of a 4th embodiment, and a taste adapted data storage parts store.

[Drawing 15] It is a figure showing an example of the functional block composition of a 5th embodiment.

[Drawing 16] It is a figure showing an example of the memory state of the taste information storage parts store of a 5th embodiment.

[Drawing 17] It is a figure showing the example of the electronic newspaper created by a 5th embodiment.

[Description of Notations]

1 and 71 Channel selection part

2 Analog demodulation part

3 An image, a sound, and a data output part

5 Interlocking data detector

6 Interlocking data reproducing part

7 Taste information extraction part

8 Taste information storage parts store

9 Taste information indicator

10 Taste adapted data primary detecting element

12 Taste adapted data storage parts store
14 Taste adapted data regenerating section
16 Taste adapted data erasing part
20 Automatic channel selection part
21 User's operation primary detecting element
24 Taste conformity video voice section specific part
25 Taste conformity video-audio-information storage parts store
26 Taste conformity video-audio-information regenerating section
30 Television broadcasting station
40 TV receiver
50 Television operation remote control
60 Printer
72 Video-audio-information regenerating section
73 Program-guide-information extraction part
74 Program-guide-information storage parts store
75 View program specific part